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ABSTRACT

Industry structure studies prior to 1968 are briefly reviewed, and an overview of industrial and technological developments up to the present is provided through synopses of more recent studies. Areas covered include overseas telephone and record carriers; the creation of the Communications Satellite Corporation; the current regulatory and oversight environment, which includes statutory background, the FCC regulatory process, and the executive office role; current problems existing within the present institutional arrangements; alternative industry arrangements for providing international telecommunications services; and regulatory and governmental changes with impacts on industry structure. The report closes with a summary of conclusions and recommendations for possible structural, regulatory, and legislative changes for the international telecommunications industry. (RAO)

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A REVIEW OF INTERNATIONAL TELECOMMUNICATIONS INDUSTRY ISSUES, STRUCTURE, AND REGULATORY PROBLEMS

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June 1977

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OFFICE OF TELECOMMUNICATIONS
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The mission of the Office of Telecommunications in the Department of Commerce is to assist the Department in fostering, serving, and promoting the nation's economic development and technological advancement by improving man's comprehension of telecommunication science and by assuring effective use and growth of the nation's telecommunication resources.

In carrying out this mission, the Office

- Conducts research needed in the evaluation and development of policy as required by the Department of Commerce
- Assists other government agencies in the use of telecommunications
- Conducts research, engineering, and analysis in the general field of telecommunication science to meet government needs
- Acquires, analyzes, synthesizes, and disseminates information for the efficient use of the nation's telecommunication resources.
- Performs analysis, engineering, and related administrative functions responsive to the needs of the Director of the Office of Telecommunications Policy, Executive Office of the President, in the performance of his responsibilities for the management of the radio spectrum
- Conducts research needed in the evaluation and development of telecommunication policy as required by the Office of Telecommunications Policy, pursuant to Executive Order 11556

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PREFACE

United States international telecommunications is generally considered to have had its birth in 1866 when the first permanent transatlantic submarine telegraph cable was placed into service between Ireland and Newfoundland. However, like many other areas of our world society, the greatest growth has been experienced during the past 20 years.

Today there is a wide variety of services available to the user by means of highly sophisticated transmission, switching, and terminal technology. International traffic volumes for both telephone and record service have been steadily rising. But no matter how impressive the growth and the availability of services have been, we must continue to ask the question, Does the present industry structure adequately serve the public interest? Specifically, has the structure of the industry evolved, albeit in a rather random method, to sufficiently accommodate changing technology and user needs and to provide services at reasonable charges? If not, are changes desirable in the present industry structure?

Concern for the structure of the U.S. international telecommunications industry dates back to the late 1920's when the industry was relatively simple. Since then, the industry has evolved into a rather complex structure, especially during the past ten years or so. The purpose of this report is to present a synopsis of the various studies that have addressed the international telecommunications industry structure after 1968:

- Studies commissioned by the Office of Telecommunications Policy (OTP) during the past two years (1975-1976)
- President's Task Force on Communications Policy (1968)

The report begins with a review of past industry structure studies. Studies and legislative actions prior to the 1970's will only be mentioned briefly to establish the historical record. Chapter II is an overview of the industrial and technological developments up to the present including overseas telephone and record carriers, as well as the creation of the Communications Satellite Corporation

(COMSAT). In Chapter III a description is given of the current regulatory and oversight environment including statutory background, FCC regulatory process, and the executive office role.

Chapter IV deals with the problems existing within the present institutional arrangements described in the various studies. The problems are not limited to those that may appear to be affected by changes in the industry structure; rather, all of the major problems of international telecommunications are described to enable the reader to understand the complex legal/institutional framework involved.

Chapter V presents a summary of the alternative industry arrangements which were developed in the major study efforts. These alternatives are organized according to individual subject, enabling the reader to more readily compare the varying opinions on each pertinent category. The authors have made no attempt to analyze these alternative arrangements.

Chapter VI deals specifically with regulatory and governmental changes with impacts on industry structure.

The closing chapter presents an overall summary of the reports and the authors' conclusions and recommendations on possible structural, regulatory, and legislative changes.

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CHAPTER I

HISTORICAL REVIEW OF INDUSTRY STRUCTURE STUDIES

A. Introduction

Beginning with the telegraph cable and HF radio carrier merger issue in the late 1920's, certain elements of the U.S. international telecommunications industry have always been at the center of controversy. Later, the separation of international and domestic communications services entered the spotlight, followed by merger studies and varying views on the desirability of competition. Distinctions between voice and record services were also important issues at different times over the past decades. With the introduction of satellite technology, the controversy has revolved around the problem associated with cable and satellite utilization. Today, virtually all aspects of the U.S. international telecommunications industry are open for discussion.

This chapter summarizes the early Congressional and Executive Office activities relative to the industry structure prior to 1966 and introduces the three major study efforts which have been performed since then.

B. Industry Structure Activities Prior to 1966

The merger issue in international record communications between World War I and 1946 has been summarized as follows:

> "During World War I, when the Government operated the telegraphy industry, the United States Navy was given control of the transoceanic radio stations in the interest of national security. Immediately after the war, a bill was introduced in Congress providing for the control and operation by the Navy Department of the then existing private United States radio stations used for overseas communications. The measure had Navy support. Under its provisions, the Navy was to operate the private stations as well as its own stations for the handling of both commercial and Government international communications. The bill did not become law. The country would not accept Government ownership or operation of these facilities.

"The first expression of Congressional policy on merger of the privately owned cable and radio companies came in the Federal Radio Act of 1927. This law specifically prohibited mergers of radio with cable companies, and vice versa, if such mergers would lessen competition or restrain trade in interstate or foreign commerce. The Radio Act also declared that antitrust laws are specifically applicable to the manufacture, sale, and trade in radio apparatus, and to interstate or foreign radio communications.

"The Communications Act of 1934 included the same provisions. In 1939 the Senate Committee on Interstate Commerce requested the FCC to study the merger question afresh. The Commission reported in the following year, recommending permissive merger of the cable and radio-telegraph carriers.

"After lengthy hearings, Senator White and Senator McFarland introduced a bill in 1941 to permit mergers in both domestic and international telegraph systems. When the measure was before the full committee during the following year, however, the Navy Department, previously a supporter of merger, objected to changing the law to permit changes in the international industry at that time. The Navy thought that the structure of United States overseas telecommunications should not be altered during the war. Provision for this type of merger was deleted from the bill; although the House restored it, the bill was not voted on before the end of the 77th Congress.

"The problem of domestic merger was felt to be so urgent, however, that it could not wait for the conclusion of the war. The Postal Telegraph Company was deeply in debt, and there appeared no prospect that its financial affairs could possibly be put in order. The 78th Congress took up the question of domestic merger in 1943, and amended the Communications Act so as to permit Western Union to purchase Postal Telegraph. This permissive legislation required Wester Union to divest itself of its international business, Western Union Cables, within a reasonable period of time according to conditions

and procedure specified in the Act, and with the approval of the FCC. Up to the present time (1951), Western Union and potential buyers of its cables have been unable to agree on terms of sale. Western Union Cables continues from year to year as the FCC renews permission for it to continue in its present ownership. This situation has given rise to suggestions that the provision for splitting domestic from international carriers be stricken from the law.

"In 1945 resolutions calling for study of the international merger problem again were introduced in Congress and further hearings were held. No new action resulted from the Congressional hearings, however. Senator McFarland, on discovering that the Department of State no longer supported merger while other executive agencies and the FCC favored it, took the position that Congress could do nothing until the executive agencies arrived at a common policy.

"In 1946 the newly organized Telecommunications Coordinating Committee, at the suggestion of the Navy Department, tried to work out a Government policy on merger. The Committee was unable to reach a unanimous recommendation after thorough exploration of the issues by an ad hoc subcommittee. This ad hoc group submitted a report in December 1946, which set forth the arguments of proponents and opponents of merger."1/

Due to pressing problems in the operation of the Nation's wire and radio communications facilities, President Harry S. Truman created the President's Communications Policy Board on February 17, 1950. The function of the Board was:

"... to study the present and potential use of radio and wire communications facilities by governmental and non-governmental agencies and to make and present to the President evaluations and recommendations in the national interest concerning (a) policies for the most effective use of radio frequencies by governmental and non-governmental users and alternative administrative arrangements in the Federal Government for the sound effectuation of such policies, (b) policies with respect to international radio and wire

communications, (c) the relationship of government communications to non-government communications, and (d) such related policy matters as the Board may determine."[2]

In relation to international communications policies, the conclusions of the Board reached in March 1951 were as follows:

"1. The Government should adopt the policy of maintaining the strength of the private competitive international communications system.

2. There should be a Government agency charged with the responsibility for implementing this policy.

3. Urgent recommendations have been made to Congress that legislation be enacted to permit companies in the international cable and radio field to merge. One of these calls for a single company to handle all United States domestic and international record communications, thus providing an integrated system. We find no imperative reasons calling for an immediate merger of these companies; we conclude, on the contrary, that recent improvements encourage a continuation of their present independent status. Moreover, in our judgment, a period of partial mobilization is not a good time to undertake a reorganization of these important components of our communications system. Our conclusions in regard to merger are based on conditions as we now find them and can project them. We recognize, however, that the situation can change and that the welfare of our communications system demands constant attention to the condition and stability of these companies. We are mindful of the strong conviction held by informed members of Congress and others that merger is desirable. We have ascertained that interested Government departments are divided in their views on the subject. While we believe that the national interest does not at this time require the repeal of existing prohibitions against merger, we recognize that changing conditions may provide compelling reasons for a merger later on. If so, the anticipation of them by adequate study and legislation will be essential. The kind of merger which might thus be indicated, as well as the timing of it, may be dictated not only by normal economic forces, but

by the wisdom of the Government's own policies vis-a-vis the companies and by technological developments. Technological developments may in fact prove to be the conclusive factor in determining the future of these companies."3/

Again in 1958-59, the Senate Committee on Interstate and Foreign Commerce held a series of hearings4/ to authorize merger of the international telegraph carriers. This legislative proposal was introduced by Senator Warren Magnuson during the 85th Congress as S. 4231 in August 1958, and reintroduced during the 86th Congress in 1959. Although permissive merger was supported by most Government agencies as well as the record carriers, it was opposed by the Department of Justice and labor unions, and consequently failed to be enacted.

C. Intragovernmental Committee on International Telecommunications (1966)

The first concentrated effort to investigate the international telecommunications industry was undertaken in 1964. On January 24 of that year, the Acting Special Assistant to the President for Telecommunications and the Chairman, Federal Communications Commission, wrote to the Secretaries of State and Defense and the Attorney General, proposing a Joint Study of International Telecommunications. As a result of this letter, the Intragovernmental Committee on International Telecommunications was created. The Committee consisted of the Director of Telecommunications Management, Chairman of the Federal Communications Commission, Assistant Secretary of State for Economic Affairs, Assistant Secretary of Defense for Administration, and Assistant Attorney General for the Antitrust Division. This Committee organized a working group called the Project Advisory Group (PAG) and in March 1965 through the assistance of the Department of Defense, a contract was awarded to Stanford Research Institute (SRI). SRI was to assemble the necessary information concerning the past, present and probable future performance of the industry, the effects of technological change and the demands for services. With this information, the Committee could then form recommendations for the future international telecommunications industry structure. SRI examined the likely performance of the industry under four general alternative structures. The alternatives were:

1. retention of the status quo

2. merger of all international record carriers into one entity which would provide service

3. merger as above, but including the Western Union Telegraph Company, and

4. merger of all international operations--international record carriers, and AT&T cables, with or without COMSAT--into one single international carrier which would provide the international facilities for all services (including telegraph services as in alternative 2) directly to the public in the gateway cities.

A summary of the SRI analysis is found within its own text:

> "The greatest identifiable savings through plant consolidation and lower operating costs would be found in the simultaneous merger of the international record carriers with the domestic record carrier. This would streamline the operating arrangements in and near the gateway cities. Merging the transmission media, as in Alternative 4, does not produce as much identifiable savings but undoubtedly would provide better R&D support and improved negotiating arrangements with foreign partners. This carrier's carrier arrangement would provide the most flexibility in management of the international transmission network and will permit COMSAT to invest a greater portion of its available capital....
>
> "The above summary suggests that the optimum arrangement from an economic as well as an operational viewpoint would be to merge domestic and international record carriers (Alternative 3) but also to create an international carriers' carrier to operate all transmission networks (Alternative 4). This would maximize the plant consolidation, provide maximum economies of operating costs and take advantage of economies-of-scale in transmission and switching. It would promote the best U.S. participation in global network planning, provide strong R&D support for transmission and switching systems and constitute a strong position for international negotiations...5/

In January and February 1966, the Intragovernmental Committee held meetings with the leaders of the telecommunications industry, labor, and SRI; and in April submitted its report and recommendations to the Senate and House Commerce Committees which stated in part:

> "...the Committee concluded that the dynamic nature of this vital industry requires that the regulatory agency be given authority to take promptly such action as may be necessary to serve the national interest, meet the needs of the public and the Government for efficient and economical telecommunications service, and preserve the health of the industry. No consensus was reached on the most desirable structure for the industry, which may depend upon future developments and upon the initiative of the firms involved. But the Committee believes that the FCC, which has the power to change the industry's competitive conditions drastically by authorizing new services and approving or prescribing rates, should also have the power to authorize necessary changes in the industry structure. At present, major industry restructuring is prohibited by the antitrust laws and certain sections of the Communications Act. Therefore, the Committee recommends that the Congress now act to remove such bars and enact appropriate permissive merger legislation. The proposed bill, a draft of which will be submitted shortly, would authorize the FCC to approve a plan submitted by the carriers for merger of any two or more record carriers, or their facilities, with or without COMSAT and with or without the overseas facilities of AT&T, on a finding that the public interest would be served thereby..."6/

Again, the concept of permissible merger had been advanced before the Congress by means of the Committee report. The draft legislation which was to follow was not acted upon by Congress and major industry restructuring remained prohibited by anti-trust laws and certain sections of the Communications Act. The major reasons for advancing the legislation had been the concern over the viability of economic health of the record carriers in the light of increasing competition of voice communications and the impact of satellite communications.7/

D. President's Task Force on Communications Policy (1968)

The need to develop telecommunications policy continued, and on August 14, 1967, President Lyndon B. Johnson delivered a message to the Congress in which he announced the appointment of a Task Force on Communications Policy:

"I am appointing a Task Force of distinguished government officials to make a comprehensive study of communications policy. It will examine a number of major questions:

--Are we making the best use of the electro-magnetic frequency spectrum?
--How soon will a domestic satellite system be economically feasible?
--Should a domestic satellite system be general purpose or specialized, and should there be more than one system?
--How will these and other developments affect COMSAT and the international communication carriers?

"These are complex questions. Many of them are being presently weighed by the Federal Communications Commission. But a long, hard look must also be taken by all parties with responsibility in this area--for the ultimate decisions will work a revolution in the communications system of our nation.

"This Task Force will examine our entire international communications posture. It should investigate whether the present division of ownership in our international communications facilities best serves our needs, as well as which technology can meet new communication requirements in the most effective and efficient manner.

"The Task Force may establish working groups of government and non-government experts to study various technical, economic and social questions.

"The Task Force should also determine if the Communications Act of 1934 and the Communications Satellite Act of 1962 require revision. I am asking the Task Force to report to me from time to time and to make its final report within one year."8/

The Task Force was essentially an interdepartmental committee (fifteen departments and agencies of the Federal Government cooperated directly in the effort), backed up by a recruited staff and contracted private industry studies.

In regard to the organization of the United States international communications industry, the Task Force stated "of the various alternatives that have been suggested, formation of a single entity for United States international transmission seems the most effective organizing principle of the industry for the future."9/

The final Task Force report was submitted on December 7, 1968, after the election of President Richard M. Nixon. After review by the new administration, subsequent action was not taken on the industry structure proposal.

E. Office of Telecommunications Policy Industry Structure and Related Studies (1975-1976)

Renewed concern over the structure of the international telecommunications industry and the associated regulatory process prompted the Office of Telecommunications Policy (OTP), Executive Office of the President, and the Department of Commerce's Office of Telecommunications, Analytical Support Division, to perform studies relating to industry structure. The major studies referenced throughout this report include:

- Department of Commerce, Office of Telecommunications, Analytical Support Division
  Analysis of AT&T's Overseas Services Including Cost of Providing Such Services Its Regulation and Evaluation of Possible Alternative Arrangements

- Guy Black and Associates
  Summary of the Monopoly and Antitrust Aspects of the U.S. International Telecommunications Industry

- Richard Gabel
  Analysis of Existing and Alternative Arrangements for the U.S. International Record Communication Industry Including an Evaluation of Their Impact on Overall Industry Performance

- Transcomm, Inc.
  An Analysis of Existing and Alternative Roles for the Communications Satellite Corporation Within the U.S. Overseas Telecommunications Industry

- Transcomm, Inc.
  An Analysis of Current and Alternative Regulatory Procedures for the United States International Telecommunications Industry

- Columbia University, Frank P. Grad and Daniel C. Goldfarb
  Government Regulation of International Telecommunications

The various alternative structure arrangements covered in these reports are reviewed in detail in Chapter V. Regulatory and governmental alternatives discussed in the studies are summarized in Chapter VI. Other reports are also referenced where supplementary information is appropriate or required.

END NOTES - Chapter I

1. President's Communications Policy Board, "Telecommunications, A Program for Progress," March 1951, pp. 152-154.

2. Ibid., pp. 2-3

3. Ibid., pp. 181-182.

4. Committee on Interstate and Foreign Commerce, "Merger of International Telegraph Carriers," Eighty-Sixth Congress, 1959.

5. Stanford Research Institute, "Study of International Telecommunications Policies, Technology, and Economics," Report for Intragovernmental Committee on International Telecommunications, 1966, pp. 194-196.

6. Intragovernmental Committee on International Telecommunications, "Report and Recommendations to Senate and House Commerce Committees," April 1966, p. 32.

7. Ibid., pp. 24-27.

8. President Lyndon B. Johnson, "Message From The President of the United States Transmitting Recommendations Relative to World Communications," August 1967.

9. Rostow Committee Final Report, "President's Task Force on Communications Policy," December 1968, p. 20.

CHAPTER II

INDUSTRIAL AND TECHNOLOGICAL DEVELOPMENT IN INTERNATIONAL TELECOMMUNICATIONS

A. Introduction

The U.S. international telecommunications industry can be defined as encompassing those firms which provide transoceanic communications services between the continental United States and points throughout the world including Hawaii and U.S. offshore points. However, the U.S. record carriers do not serve Alaska, Canada, St. Pierre-Miquelon, Newfoundland, and Mexico.[1] This chapter provides the historical development of the international common carrier industry and reviews the major technological developments influencing the current industry arrangement. This present structure is marked by a segregation of voice and nonvoice (record) telecommunications in the customer-services area, and the cable and satellite dichotomy in the transmission-media area.

B. Development of Overseas Telephony

American Telephone and Telegraph Company (AT&T) became the sole supplier of overseas telephone services for the United States Mainland largely due to its position in the provision of domestic voice service. By the time radio telephony made possible international voice communications in the 1920's, AT&T had become the predominant common carrier engaged in furnishing message telephone and private line services in the U.S., and it was an extension of this domestic service which made AT&T the single voice carrier of international telecommunications.

1. Development of AT&T

Unable to sell his patent, Alexander Graham Bell along with several others established the Bell Telephone Company. After declining to buy the telephone patent, the Western Union Telegraph Company soon recognized telephony as a competitive threat. "...[I]n 1879 a settlement between the two was signed, leaving telephony to Bell and telegraphy to Western Union, effecting a duopoly* in the telecommunications business and formalizing the separation

*A technically correct definition would be a bifurcated market (AT&T providing telephone services and WU providing telegraph services).

of modes."[2] In 1899, AT&T become the parent company of the Bell System and as such the virtual domestic telephone monopoly. This monopolization was so effective that in 1912 a group of independent companies protested to the Justice Department that AT&T was in violation of the antitrust laws. This feeling came to the forefront because of AT&T's successful efforts in acquiring many small independent telephone companies as well as the operating control of Western Union Telegraph Company, and because of AT&T's alleged unwillingness to physically interconnect its facilities with those of independents. In 1913, the Interstate Commerce Commission (ICC), acting under the conditions of the Sherman Antitrust Act, began an investigation into whether or not AT&T was attempting to monopolize communications in the United States.

The issue was resolved by the Kingsbury Commitment of 1913 in which AT&T agreed to dispose of its Western Union stock and operating control, to purchase no more independent telephone companies, and to make prompt arrangements for all other telephone companies to secure toll service for their subscribers over Bell company lines.[3] This agreement with some modifications, such as the ability to acquire independent telephone companies with ICC approval, became formalized in the Willis-Graham Act of 1921, and ultimately in the Communications Act of 1934, Section 221(a). The telegraph-telephone separation which began in 1879 was preserved and strengthened through this action.

2. Development of Overseas Transmission Telephony

The invention of radio created a new pathway for common carriers, particularly telegraphy, and it was developed immediately. "...[B]y 1915 the American Telephone and Telegraph Company succeeded in transmitting speech signals from Virginia to Paris, thus showing radio's capacity to handle either voice or message transmissions internationally, whereas the cables could carry only narrow bandwidth telegraph messages. By 1927, AT&T introduced transatlantic radio telephone service commercially, charging $75 for a three-minute call."[4] This transoceanic telephony service was so successful that by the late 1940's and the post World War II expansion it became apparent that better quality and higher numbers of circuits were needed for overseas service.

On the technical side, the development of the two major pathways of modern overseas telecommunications, the voice-grade cable and the communications satellite, was accomplished in the 1950-60's. (For discussion of satellite technology, see Section D.) In 1956, AT&T and the British Post Office laid the first transoceanic voice-grade cable between Scotland and Nova Scotia capable of transmitting thirty-six simultaneous telephone conversations. Instead of accommodating demand, demand for telephony grew at a very high percentage, creating a need for additional and larger cable systems. The advances of voice-cable technology is represented in each generation; the current transatlantic TAT-6 cable system consisting of 4,000 voice-grade circuits is an example. In summary, AT&T is the sole common carrier providing U.S. mainland overseas message and lease telephony. Table II-1 provides a ten-year summary of AT&T's overseas revenues and its growth through 1975.

C. Development of Overseas Record Service

Samuel F.B. Morse sent the first telegraph message, "What hath God wrought," between Washington and Baltimore on May 24, 1844. Morse offered his telegraph to the government for $100,000, but the Postmaster General refused the offer since it was "uncertain that the revenues could be made equal to its expenditures." Telegraph was thus destined to be developed, "as a private, rather than governmental, enterprise, the consequences of which very much affect the industry and the governmental control over it even today."[5]

1. Development of the International Record Industry/Early Cable Technology

"The subsequent growth of the telegraph industry was very rapid. Fifty companies were using Morse telegraph patents by 1851, the year in which the Western Union Telegraph Company was chartered. As telegraphy represented the first practical application of electricity, so Western Union, soon to dominate the industry, would become the first nationwide monopoly."[6] With the development of underseas cable techology, telegraphy became a means for international telecommunications. In 1866, the British-controlled Anglo American Telegraphy Company aided by an American, Cyrus Field, laid the first permanent operating underseas cable extending from Ireland to Newfoundland.[7] Western Union entered the sphere of cable and overseas operations when it leased the first American

TABLE II-1

AT&T OVERSEAS REVENUE (000)

YEAR	MESSAGE	% GROWTH	PRIVATE LINE
1965	$ 84,523		$ 9,475
1966	106,760	26.31%	9,219
1967	120,075	12.57%	8,787
1968	145,802	21.43%	8,657
1969	195,347	33.98%	9,223
1970	213,777	9.43%	8,449
1971	247,701	15.87%	6,341
1972	308,176	24.41%	7,620
1973	373,014	21.04%	7,232
1974	441,137	18.26%	6,143
1975	502,402	13.88%	6,321

SOURCE: AT&T Report pursuant to Section 43.61 of Federal Communications Commission Rules

owned transatlantic cables financed by American Telegraph and Cable Company in 1881 and 1882. These and subsequent cable ventures led to fierce competition with the charges for public message services falling from $100 to $10 for 20 words, or 50 cents a word.[8]

John MacKay and J. G. Bennett formed the Commercial Cable Company and built an additional cable between Ireland and Newfoundland in 1884. This new Company, however, lacked landline connections and service in the U.S. for its transoceanic service. Commercial, faced with a choice between building its own domestic telegraph system or paying a highly prohibitive price to Western Union for interconnection, chose the former course of action and acquired the Postal Telegraph System for domestic service in 1897.[9] These types of international arrangements for telegraph existed for approximately 20 years or until the coming of radio telegraphy in 1920.

2. Radio and the Development of International Record Industry

"The commercial development of radiotelegraph began shortly after 1895, when Marconi first demonstrated that intelligible electrical signals could be transmitted through space without the aid of connecting wires."[10] Until the organization of American controlled companies, all commercial wireless communications in the U.S. were carried on by the American Marconi Company, which was controlled by Marconi Wireless Telegraph Company, Ltd. (British Marconi). However, "Until World War I,...trans-oceanic radio communication was for the most part unsuccessful because of the lack of efficient transmitting and receiving equipment... thus radio communication companies confined their operations primarily to ship-to-shore service."[11] It was World War I which spurred the development of radio. The Government control over the patents of the Alexanderson alternator and the DeForest tube offered the solution of efficiently generating and receiving continuous electrical waves.[12] Thus, the age of international Radio Communications had begun.

The Radio Corporation of America was incorporated in 1919 as an outgrowth of the patent controversy and the U.S. Government's desire that U.S. radio communications should be under U.S. control. Prior to the development of RCA, the British Marconi Company (foreign owned) had sought to purchase the patent rights of the GE-developed Alexanderson alternator but with its incorporation, RCA

had obtained these rights. By 1920, RCA had established direct radio telegraph circuits between major overseas points, and by the mid-1920's, appeared as formidable competition to the cable telegraph carriers.

"...Competition between cable and radio was considered very important (and encouraged) during the 1920's.[13] In establishing the Federal Radio Commission, the Radio Act of 1927 and later the Communications Act of 1934, Congress even exhibited a protective attitude toward radio.[14] In 1927, MacKay, a holding corporation for Commercial Cable and Postal Telegraphy Companies, proposed to enter the international radio communications field with a coordinated system using both radio and cable. MacKay argued that because RCA faced no competition within radio itself, approval of their application would provide competition to RCA and prevent monopoly.[15] With today's hindsight, it is clear that having granted Mackay, now ITT Worldcom, the opportunity to take advantage of the new radio technology saved that company from bankruptcy. RCA subsequently offered service over both cable and HF radio facilities, and is presently known as RCA Globcom.

Finally, Western Union Telegraph, facing competition domestically from Postal Telegraph and internationally from the radio carriers, was in poor financial standing. By 1943, Congress enacted merger legislation to permit Western Union to acquire Postal, which itself was almost bankrupt. This consolidation had a direct bearing on international communications because WU was required to divest itself of all international telegraph operations and facilities. This sale of Western Union's cable operations was completed in 1963. Western Union International (WUI), an entirely independent corporation, purchased the operations and became the "new" international record common carrier.

3. International Record Industry Today

The three major international record carriers (IRC's) by volume of business and revenues are ITT World Communications, Inc., RCA Global Communications, Inc., and Western Union International, Inc. The remaining record carriers consist of TRT Telecommunications, Inc. (TRT), French Telegraph Cable Company (FTC), and the U.S.-Liberia Radio Corporation (USLR). Both FTC and USLR are very small carriers established in 1879 and 1913 respectively to serve particular communications needs. TRT has become

the fourth largest international common carrier, expanding operations in 1972 to points outside its traditional market areas of Central and South America.

The principal IRC services include: telegraph message services, telex (switched teletype), leased telegraph, leased alternate-voice data (AVD), facsimile, data television transmission and reception services, and radio-coastal telegraph service. Prior to the mid-1960's the principal component of IRC revenues had been telegraph message service. Today the industry achieves nearly 60% of its total revenues from telex service (1975).

Today, the IRC's long-haul transmission to various overseas destinations is provided by submarine cable and communications satellites. Radio has been relegated to the provision of mobile services. The telegraph cables described earlier have been replaced by the voice-cable technology developed by AT&T. Through an FCC ruling, the IRC's have the opportunity to buy ownership shares in these cables based on each carrier's present and forecasted circuit utilization. Although their control on future facilities planning, development, and investment was sharply curtailed and left very much dependent on AT&T, the IRC's have gained a guaranteed share in AT&T's technology which very importantly is included in their respective rate bases.16/

Figures for IRC total industry revenues are growth are presented in Table II-2.

D. The Creation of COMSAT

Congress created the Communications Satellite Corporation by the Communications Satellite Act of 1962. The corporate structure of COMSAT is best described as a compromise between private industry and government entity forces. The legislation segregated ownership and operation of satellite communications from that of cable. "Thus, the Act followed a pattern of fragmentation within the U.S. telecommunications industry that had a venerable history."17/

1. The Organization of COMSAT

a. Internal Organization

The 1962 Satellite Act assigns special and unique missions to the corporation which include:

TABLE II-2

REVENUES FROM OVERSEAS RECORD COMMUNICATIONS SERVICES
1953-1975
(Selected Years)

($ MILLION)

YEAR	MESSAGE	TELEX	PRIVATE LINE
1953	$ 42.5	$ .6	$ 3.7
1955	46.6	1.2	4.8
1957	50.3	2.8	6.0
1959	55.0	5.4	8.4
1961	57.1	10.0	8.6
1963	56.3	13.7	12.1
1965	50.6	21.3	20.2
1967	49.8	33.7	31.3
1969	53.8	55.9	45.4
1971	49.2	72.5	52.0
1972	44.8	88.3	57.7
1973	47.6	115.0	62.8
1974	52.3	142.7	64.1
1975	42.5	163.4	69.2

SOURCE: FCC Statistics of Communications Common Carriers, Table 25, 1975

"...to establish...as expeditiously as practicable a commercial communications satellite system, as part of an improved global communications network... (Sec. 102(a));

"To direct care and attention 'toward providing such services to economically less developed countries, and areas...' (Sec. 102(b)); and

"To reflect 'the benefits of this new technology in both quality of services and charges for such services.'. (Sec. 102(b)).

"Without any commitment of support from other entities, domestic or foreign, COMSAT was required to develop the satellite system."18/

Parallel development of medium altitude and synchronous systems was contemplated since it was not apparent at that time which system would be desirable. Thus, the capital investment for the new company was approximated at $200 million and as a consequence, in May 1964, there was a stock offering of 10 million shares at $20 per share. (The subsequent decision to use a synchronous system resulted in COMSAT's overcapitalization.) The international common carriers were allowed under the Act to purchase 50% of the total shares offered: AT&T purchasing 29%, ITT 11%, and the remaining 10% spread among various other carriers. The remaining 50% of the shares was acquired by approximately 130,000 members of the general public. Since that time, the IRC's and AT&T have divested their stock ownership. In an initial two-year period, COMSAT had established itself, had capitalized, and had undertaken its mandate to develop a global satellite system.

COMSAT GENERAL, a wholly-owned COMSAT subsidiary, was organized in 1973 to carry out certain corporate programs which were not a part of INTELSAT. The two major programs of COMSAT GENERAL in the international arena are the shipboard communications system, MARISAT, and the aircraft communications system, AEROSAT.

b. International Arrangements

On August 20, 1964, the Agreement Establishing Interim Arrangements for a Global Commercial Communications System was signed by 11 signatory countries, growing to 45 by mid-1965.

"The interim arrangements addressed only the space segment, which includes the communications satellites, the tracking, telemetry, command, and related facilities and equipment required to support the operation of the communications satellites. During the term of the interim arrangements, ...(each signatory)...financed and owned the space segment of the global satellite system. COMSAT's original ownership share in INTELSAT was 61%. COMSAT was designated to act as the Manager of INTELSAT under the interim arrangements. In that capacity, COMSAT was responsible for the research, design, development, construction, establishment and operation and maintenance of the space segment of the global satellite system."19/

After considerable international negotiations,

"the definitive arrangements became effective February 12, 1973. Like the Interim arrangements, they are composed of two separate but related international agreements. The first -- 'Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT)' (the 'Agreement') -- is between and among governments. The second -- 'Operating Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT)' (the 'Operating Agreement') -- is between and among the actual investors and participants in INTELSAT, which may be either the government's party to the Agreement or telecommunications entities, public or private, designated by these governments. COMSAT was designated as the U.S. Signatory for the Operating Agreement.

"The definitive arrangements create a structure for INTELSAT consisting of: (1) an Assembly of Parties; (2) a Meeting of Signatories; (3) the Board of Governors; and (4) an executive organ responsible to the Board of Governors. The basic province of INTELSAT continues to be the space segment, and the financial

> arrangements continue much as they were under the interim arrangements. A major exception is that a mechanism is included to insure that investment will be more closely related to actual use through annual adjustments."20/

While COMSAT's ownership share is still the largest of any other user, it has now dropped to near the 28% level.

COMSAT still provides technical and operational management services under the terms of a Management Services Contract for the period from August 1, 1974 to February 11, 1979. However, effective December 31, 1976,

> "The Director General will become directly responsible to the Board of Governors for the performance of all management functions, (and) [a]s a consequence, the Management Services Contractor (COMSAT) will no longer be directly responsible to the Board of Governors, but will be responsible to the Board through the Director General."21/

> "COMSAT is compensated for its services at $500,000 per year plus 14% return on capital employed in these services. After the expiration of the management services contract in 1979, the Director General will contract with one or more entities for these technical and operational services to the 'maximum extent practicable.' Thus, there is no assurance that after February 1979 COMSAT will have any special role in INTELSAT different from that of other Signatories."22/

2. Development of Satellite Technology

The Early Bird synchronous satellite, similar to the earlier Syncom spacecraft developed by NASA, began to supply the world's first commercial satellite service in June 1965. The 240 voice-grade circuit capacity of this satellite, launched by a DOD-developed vehicle, increased by more than 50% the then existing total telephone capacity across the Atlantic. The next satellite series, INTELSAT II, incorporated a multiple-access approach and provided the first Atlantic and Pacific Oceans region coverage starting in 1966.23/

The third generation of satellites, INTELSAT III, began operations in late 1968, and in early 1969 became the first satellite to provide service to the Indian Ocean region and "thereby completed the initial global coverage contemplated by the Satellite Act."24/

Currently, INTELSAT IV and IV-A satellites provide service in the system. This latter generation of satellites is a modified, higher capacity version of the INTELSAT IV series, with a nominal capacity of approximately 6,000 circuits and a design life of seven years. The current global network of INTELSAT is built around eight satellites over the three ocean basins serving 150 earth stations in over 80 countries.

With the introduction of satellite technology, the international voice and record carriers could provide direct service to routes previously not served by cable systems, and on a majority of routes provide a transmission choice between cables and satellites. COMSAT's role in providing international service is limited to that of a carrier's carrier through the leasing only of their satellite circuitry to AT&T and the IRC's; i.e., a wholesaling function. During 1975, COMSAT received $130M from these common carriers. It is important to realize that the amount of revenues COMSAT obtains is directly dependent on the U.S. carriers' utilization of circuitry which is itself markedly influenced by FCC policy on cable/satellite utilization. These issues and inter-relationships are discussed in detail later in this report.

END NOTES - Chapter II

1. 47 U.S.C., Section 222 (a)(6).

2. Frank P. Grad and Daniel C. Goldfarb, "Government Regulation of International Telecommunications," OTP Contract Report, 1976, p. 44.

3. Jack E. Cole and others, "Analysis of AT&T's Overseas Services Including Cost of Providing Such Services Its Regulation and Evaluation of Possible Alternative Arrangements," Office of Telecommunications, U.S. Department of Commerce, 1976, pp. II-2 thru 3.

4. Grad and Goldfarb, p. 45.

5. Ibid., p. 42.

6. Ibid.

7. Ibid., p. 43.

8. Richard Gabel, "Analysis of Existing and Alternative Arrangements for the U.S. International Record Communications Industry Including an Evaluation of Their Impact on Overall Industry Performance," OTP Contract Report, 1975, p. 4.

9. Ibid., pp. 4-5.

10. Federal Communications Commission, "Historical Development of International Communications Services," March 17, 1945, p. 9.

11. Ibid.

12. Ibid.

13. Gabel, p. 42.

14. Stanford Research Institute, "Study of International Telecommunications Policies, Technology, and Economics," Report for Intragovernmental Committee on International Telecommunications, 1966, p. B-166.

15. Ibid., p. B-168.

16. Grad and Goldfarb, p. 56.

17. Ibid., p. 59.

18. Transcomm, Inc., "An Analysis of Existing and Alternative Roles for the Communications Satellite Corporation Within the U.S. Overseas Telecommunications Industry," OTP Contract Report, 1975, pp. 8-9.

19. Ibid., pp. 9-10.

20. Ibid., pp. 10-11.

21. Board of Governors Report, "Permanent Management Arrangements for INTELSAT," Washington, D.C., 1976, p. 6.

22. Transcomm, Inc., p. 10.

23. Ibid., p. 12.

24. Ibid., p. 13.

CHAPTER III

CURRENT REGULATORY AND OVERSIGHT ENVIRONMENT

A. Introduction

This chapter summarizes the statutory background surrounding the international communications industry and identifies the U.S. Government agencies charged with the comprehensive oversight of the industry. The regulatory process itself, and specifically the interpretation of the law which has evolved, is examined to provide a complete picture of the industry and its regulation. Interestingly, very little statutory law is concerned with the regulation of the international telecommunications industry.

B. Statutory Background

In the 1910-20 period, telephone and telegraph services in the United States were brought under the regulation of the Interstate Commerce Commission as public utilities.1/ In the early era of international telecommunications, two important pieces of legislation were adopted, the Cable Landing License Act of 1921 and the Radio Act of 1927.

The Cable Landing License Act of 1921 (also known as the Kellogg Act) established the license requirements for the landing and operation of any submarine cable connecting the United States with any foreign country, specifically giving this licensing authority to the President.2/ In 1954, this Presidential function was delegated to the FCC, with the State Department reserving the right of prior approval for decisions on license grants or revocations.3/

The Radio Act of 1927, later incorporated into the Communications Act of 1934, established Government regulation over all uses of the radio spectrum.* In the field of international telecommunications, the 1927 Act prohibited the merger of radio carriers with cable carriers, if the purpose or effect of such merger was to substantially lessen competition. In this singular way, the Congress had created a policy of encouraging competition between the two technologies of that time, radio and cable.4/

*The Federal Radio Commission, predecessor to the FCC, was created to administer the Act of 1927, but a wide range of Government agencies was involved in the regulation of communications.

The Radio Act soon proved inadequate, partly because of its limited scope, lack of personnel, Congressional support, and foreign resistance to the concept of competition. President Franklin D. Roosevelt appointed an interdepartmental committee to review the entire subject of radio and communications, and the proposal made by this group formed the basis for the creation of the FCC in the Communications Act of 1934.5/

The Act of 1934 set out certain broad policy goals which include:

> "For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States.a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, for the purpose of promoting safety of life and property through the use of wire and radio communication, and for the purpose of securing a more effective execution of this policy by centralizing authority heretofore granted by law to several agencies and by granting additional authority with respect to interstate and foreign commerce in wire and radio communication...6/

While this legislation did little to alter the international telecommunications industry, except to provide for a more formal supervision, the amendment to the Act during World War II was meaningful in both a structural and regulatory sense. This 1943 amendment legislation (Section 222) was expressly written to provide for the merger of the domestic telegraph carriers, Western Union Telegraph Company and Postal Telegraph Company. The creation of a monopoly in the domestic arena, necessitated some discussion in the Act for the interface with the international carriers and definitions of each type of carriers' services and operations. Ironically, Section 222 became a principal section of the Act which specifically addresses international telecommunications. It provides for the exit of Western Union from international communications, the establishment of a distribution formula for unrouted record telegrams and a "gateway" cities concept which remains even today. The gateway cities concept limits the IRC's to the pickup and delivery of overseas messages in one of the five U.S. gateway cities.

The most recent legislation affecting international telecommunications is the Communications Satellite Act of 1962. As previously discussed, the Act declared the U.S.

policy of establishing in conjunction and cooperation with other countries, a global commercial communications satellite system (known today as INTELSAT). The Act deals specifically with the regulation of the U.S. satellite entity (COMSAT) and deems COMSAT a common carrier, subject to the applicable provisions of the Communications Act of 1934 and special additional regulatory provisions. The statute divides functions among the President, FCC, the State Department, and for technical matters, NASA.7/ However, the question of earth station ownership was effectively sidestepped in the Act:

> "In determining the public interest, convenience, and necessity the Commission shall authorize the construction and operation of such stations by communications common carriers or the corporation, without preference to either."8/

C. Regulatory Process

The FCC was established by the 1934 Communications Act as the U.S. governmental body responsible for the regulation of both domestic and international telecommunications service. In discharging its duties, the FCC plays a major role in facility approval and the rate-determination process, and shapes the industry through its various regulatory rulings and interpretations of the 1934 and 1962 Acts. Listed below are a number of significant decisions which highlight the regulatory process for the international communication industry since the Radio Act of 1927.

1. Early Regulatory Efforts (1928-1953)9/

a. Dual Circuit Policy (1928)

In applying this policy, duplicate parallel circuits between the United States and most of the important countries in the world were authorized to two or more radio carriers with the intention of obtaining for the public the benefits of competitive service.

b. Oslo Case (1935)

This case established the ground rules under which approval could be secured for proposed new radio circuits. If facilities consisted of cable circuits only, a new radio circuit could be approved. If both cable and radio already existed, a new radio circuit could be authorized if rate reductions resulted.

c. License Conditioning (1942)

This policy incorporated the requirements of the 1935 RCA Consent Decree banning exclusive contracts as a basic part of the licensing process. In short, a carrier's operating agreement with foreign entities could not produce a preference or tend to create a monopoly of communications services.

d. Three Circuits Case (1946-1953)

In 1946, the Three Circuits case developed in which the court, in FCC v. RCA Co., 346 U.S. 86, 98 (1953), overturned an FCC ruling that would have provided for the authorization of service in competition with another carrier's existing service. The court maintained that the Communications Act did not require the authorization of competitive facilities unless the FCC finds that "competition would serve some beneficial purpose," such as good service or its improvement. Subsequently, the FCC issued a decision establishing the policy that competition is desirable if it will serve some public benefit, and it may therefore be permitted where feasible.10/

2. TAT-4 Case (1964)

In the TAT-4 case, the FCC refused authority for AT&T to provide additional alternate voice data service, and the exclusive service rights were given to the international record carriers. The decision also provided for ownership rights for the IRC's in TAT-4 and future submarine cable systems as opposed to a leasing arrangement which previously applied. Importantly, investments in submarine cables were now elements of the IRC's rate base.

3. Authorized User (1966)

The FCC ruled in the Authorized User decision that COMSAT is primarily a carrier's carrier, and that in ordinary circumstances only terrestrial carriers could provide satellite service to consumers (through COMSAT). COMSAT therefore could provide direct service to authorized users only in unique or exceptional circumstances. This decision immediately became a subject of controversy since Section 305(b)(4) of the 1962 Satellite Act authorized COMSAT to, "contract with authorized users, including the U.S. Government, for the services of the communications satellite system."

4. Thirty Circuits Case (1967)

COMSAT was denied authority to provide 30 private line circuits directly to a customer, the Department of Defense. In this decision, which was in effect a reconsideration of Authorized User, the retail carriers were ordered to reflect in their rates for service any economies made available to them through the lease of satellite circuits from COMSAT. While there appeared to be a specific lack of regard for Section 305 of the Act in the identification of authorized users, another section became prominent. Composite rates reflecting both cable and satellite facilities resulted from this case. Section 201(c)(5) of the 1962 Act states that the FCC shall, "prescribe such accounting regulations and systems and engage in such ratemaking procedures as will insure that any economies made possible by a communications satellite system are appropriately reflected in rates for public communication services."

5. Virgin Islands Cable/Puerto Rico Earth Station Case (1967)

Concurrent applications for both submarine cable and earth station construction to Puerto Rico/Virgin Islands were authorized as being favorable to the public interest, convenience, and necessity. The traffic demand studies used to demonstrate the need for both facilities subsequently proved to be inflated in the years that followed the grant. The FCC indicated that advantages in diversity and spare capacity and the U.S. commitment to a global satellite system, showed that both satellite and cable should be used concurrently when additional facilities are required. This was the first case where "proportional fill" of cable and satellite circuits was ordered.

6. TAT-5 Case (1968)

The FCC authorized a fifth transatlantic cable but at the same time required specific proportional fill of cables and satellites between the U.S. and participating countries. The FCC also attached 25%, 15%, and 10% rate reductions for telephone, telex, and telegraph respectively to its authorization of the cable."These FCC conditions... represented the first (and only) instance of FCC directly telling foreign correspondents how to conduct their business."11/

7. Dataphone Order (1976)

The FCC found that the entry of AT&T into the international switched-data market would be in the public interest, provided that such service was transmitted over AT&T's

existing message telephone service (MTS) network. In doing so, the Commission required that AT&T provide the IRC's interconnection with the domestic telephone network so that they could also offer convenient switched-data services higher than 50 baud. IRC litigation and the difficulties encountered in arranging for interconnection have delayed this service.12/

8. Authorization of New Entrants (1977)

During 1976, two domestic carriers, Graphnet Communications, Inc. and Telenet Communications Corporation, filed for FCC authority to provide new data services internationally. Graphnet sought authority to extend its domestic facsimile network to international points, and Telenet sought to extend its domestic packet-switched data network to the United Kingdom.13/ The Commission concluded that both applications should be granted as they would provide users with the kind of data communications capabilities which were not being provided by the IRC's on a cost effective manner. Moreover, the Commission determined that public benefits accrued would offset any potential adverse economic impact on the IRC's.

In addition, the FCC ruled that Graphnet and Telenet did not fall within the definition of "international carriers" since their domestic revenues would continue to exceed the new revenues from their international services. Therefore, the geographical limitations of Section 222 were not applicable to these two carriers. At the present time, it has been necessary for the specialized carriers to provide their services in conjunction with the IRC's.

D. Executive Role

While the FCC is the regulatory body responsible for international telecommunications, there are various other U.S. Government agencies concerned with international telecommunications. This list includes the Office of Telecommunications Policy (OTP), the Department of State, the Commerce Department's Office of Telecommunications, and a variety of others including the Department of Defense and NASA who have very unique interests in international telecommunications including launch functions and space technology assessment. The FCC, as an independent regulatory agency is responsible to Congress, while the other agencies listed above have a primary responsibility to the President. This section of the report describes the main agencies and offices involved with and contributing to international telecommunications.

To list the former outdated agencies, the Board of War Communication, President Truman's Office of Telecommunications

Adviser, the Office of Defense Mobilization, and the Office of Telecommunications Management, illustrates that there has always been a need for advice to the President on telecommunications policy.14/

The Office of Telecommunications Policy is one current executive office concerned with international telecommunications as set forth in Executive Order 11556 of September 9, 1970. These responsibilities include:

"(a) Serve as the President's principal adviser on telecommunications.

"(b) Develop and set forth plans, policies, and programs with respect to telecommunications that will promote the public interest, support national security, sustain and contribute to the full development of the economy and world trade, strengthen the position and serve the best interests of the United States in negotiations with foreign nations, and promote effective and innovative use of telecommunications technology, resources, and services....

"(c) Assure that the executive branch views are effectively presented to the Congress and the Federal Communications Commission on telecommunications policy matters.

"(d) Coordinate those interdepartmental and national activities which are conducted in preparation for U.S. participation in international telecommunications conferences and negotiations, and provide to the Secretary of State advice and assistance with respect to telecommunications in support of the Secretary's responsibilities for the conduct of foreign affairs.

"(e) Coordinate the telecommunications activities of the executive branch and formulate policies and standards therefor, including but not limited to considerations of interoperability, privacy, security, spectrum use and emergency readiness.

. . . . . .

"(i) Develop, in cooperation with the Federal Communications Commission, a comprehensive long-range plan for improved management of all electromagnetic spectrum resources.

"(j) Conduct and coordinate economic, technical, and systems analyses of telecommunications policies, activities, and opportunities in support of assigned responsibilities.

"(k) Conduct studies and analyses to evaluate the impact of the convergence of computer and communications technologies, and recommend needed actions to the President and to the departments and agencies."

. . . . . .

In addition, OTP is charged with the Presidential functions incorporated in the 1962 Satellite Act by Executive Order No. 11191 of January 1965. These duties include a continuous review of all development and operational phases of a global satellite system.

Certain support functions for OTP, namely research and analysis, are performed by the Office of Telecommunications, Department of Commerce.

Of the other executive agencies mentioned with international communications roles, the Department of State, through its Office of International Communications Policy, exercises functions which are directly related to its general obligations in the foreign policy and foreign relations fields. The State Department has also been delegated the Presidential foreign relations functions established in the 1962 Satellite Act, and the cable landing license powers of the 1921 Act.

Another major involvement of the State Department is its participation in the International Telecommunications Union (ITU) and the technical units of ITU, such as the International Telegraph and Telephone Consultative Committee (CCITT) and the International Radio Consultative Committee (CCIR). The work of ITU and the State Department's role in it are not primarily foreign policy oriented but merely involve technical considerations and technical arrangements to enable worldwide telecommunications to function.15/

END NOTES - Chapter III

1. Stanford Research Institute, "Study of International Telecommunications Policies, Technology, and Economics," Intragovernmental Committee on International Telecommunications, 1966, p. B-163.

2. Ibid., p. B-165.

3. Executive Order No.10530, May 10,1954.

4. Richard Gabel, "Analysis of Existing and Alternative Arrangements for the U.S. International Record Industry Including an Evaluation of Their Impact on Overall Industry Performance," OTP Contract Report, 1975, p. 42.

5. Grad and Goldfarb, pp. 50-51.

6. 47 U.S.C., Section 1.

7. Grad and Goldfarb, p. 59.

8. 47 U.S.C., Section 721 (c)(7).

9. Federal Communications Commission, "Historical Development of International Communications Services," March 1945.

10. Gabel, p. 42.

11. Grad and Goldfarb, p.111.

12. Jack E. Cole and others, "Analysis of AT&T's Overseas Services Including Cost of Providing Such Services Its Regulation and Evaluation of Possible Alternative Arrangements," Office of Telecommunications, U.S. Department of Commerce, 1976, pp. III-2-thru 4.

13. FCC Memorandum Opinion and Order, Graphnet Systems, January 11, 1977.

14. Grad and Goldfarb, p. 17.

15. Ibid., p. 26.

CHAPTER IV

CURRENT PROBLEMS WITHIN THE PRESENT INSTITUTIONAL ARRANGEMENTS

A. Introduction

Before reviewing the various alternatives to the U.S. international telecommunications industry structure presented in Chapter V, it is useful for the reader to gain an understanding of the current problems which exist under the present institutional arrangements.

The problems are grouped into the two main categories of market-related and policy-related problems. It should be noted that some of the following problems may be more perceived than real by various writers.

No attempt has been made to limit the discussion to problems which may be solvable only through changes in the industry structure. Such a selection process is difficult to perform since most of the problems described can be resolved through a combination of actions including regulatory reform and new legislation.

B. Market-Related Problems

Market-related problems are divided into two subcategories: rate base and rate structure issues.

1. Rate Base Regulation

The international common carriers, like the domestic carriers, are subject to rate base regulation. The standard rate base methodology entails setting a firm's total revenue requirements equal to the sum of all allowable operating and capital costs. When the appropriate rate base is capital investment, this relationship may be represented by the following equation:

$$RR = O + T + (v - d)r$$

where: RR = revenue requirements
O = operating costs (wages, salaries, maintenance, depreciation, advertising, etc.)
T = federal, state and local taxes

v = gross value of plant
d = accumulated depreciation
r = allowed rate of return

> "These revenue requirements determine an overall rate level for the firm. After each rate level is determined, a particular rate structure must also be determined. Rate structure refers to the relationships between the tariffs for the various classes of service and, where appropriate, to the relationships between the tariffs for particular routes or geographic regions."1/

There are three major problems normally associated with rate base regulation of the international common carrier industry: (1) active rate base regulation is virtually non-existent for the international record and voice carriers, (2) there is an incentive for inefficient rate base expansion, and (3) a distortion in usage preferences for one type of transmission media is encouraged.

> "... in the strictest sense, active rate base regulation generally does not take place in the United States overseas telecommunications industry and specifically has taken place only once since the 1958 "Bellwether" decision applicable to public message telegraph service. This one instance is, however, limited to COMSAT services. Thus, any problems 'inherent' with rate base regulation cannot exist in this industry except to the extent that the threat of active rate base regulation can alter behavioral patterns in a manner similar to actual rate base regulation."2/

In the case of AT&T, it is not possible to determine the rate of return for its overseas service apart from its total Long Lines services. This is due to the fact that the Commission makes no distinction between domestic and overseas rates of return and therefore does not require that AT&T file the needed data. The required information is also not available directly from AT&T.3/

A somewhat different situation exists with the U.S. international record carriers. As cited above, the last rate proceeding concerned with the record carriers' overall earnings was in 1958. In that proceeding, called

the "Bellwether Case"[4] the FCC identified RCA as the low cost carrier (Bellwether) and established rates of return (7.5-8.5%) based upon that carrier's costs. Since 1958, intermittent rate adjustments "have been a by-product of new construction authorizations, frequently offered as a quid pro quo for the authorization."[5]

The record carriers do not submit rate of return information as such to the Commission; however, it is possible to compute it from the operating earnings and net depreciated investment data that they do provide. Rate-of-return values for the four largest record carriers for the period 1964-1974 have been computed by the FCC and are shown in table IV-1.[6] As can be seen from this table, certain IRC's are earning a return in excess of the rate allowed in the 1958 investigation.

In addition to neither enforcing the established rate of return from its 1958 decision nor prescribing new rates, the Commission has not been able to determine the relative profitability of the various record services, e.g., telex, telegraph message, and leased services. However, the FCC initiated an Audit and Study of Operations of International Carriers (Docket No. 20778)[7] in 1976 which may lead to a determination of the needed information in the future.

Until a methodology is developed and an allowable rate of return (or range) is established for AT&T and the IRC's, effective rate base regulation will not be possible.

The second problem usually associated with rate base regulation is the potential incentives for rate base expansion through inefficient investment decisions.

> "It was pointed out by Averch and Johnson (1962) and Wellisz (1963) that regulated monopoly firms which are allowed to earn a rate of return in excess of their (marginal) cost of capital may have incentives to make inefficient investment decisions. The specific result is a tendency for rate base expansion that produces a capital/labor ratio that is

TABLE IV-1

RATES OF RETURN

YEAR	ITT WORLD COM. INC.	RCA GLOBAL COM. INC.	TRT TELECOMMUNICATION, INC.	WESTERN UNION INTERNATIONAL, INC.
	PERCENT			
1964	7.16	9.38	30.89	17.92
1965	8.34	11.05	22.20	13.86
1966	9.63	12.71	22.79	19.75
1967	8.21	9.49	15.06	17.76
1968	9.87	9.36	9.59	15.64
1969	11.01	9.28	14.75	13.88
1970	11.76	8.41	15.01	15.92
1971	13.78	9.29	12.39	7.73
1972	15.24	10.36	(3.66)	10.86
1973	17.33	13.02	3.65	11.16
1974	16.99	10.82	(4.45)	12.99

SOURCE: FCC Final Policy Statement, International Record Carriers' Scope of Operations Docket No. 19660, February 26, 1976, Appendix C.

> too great for the output selected. An implication is that the regulated monopolist may have an incentive to expand at a loss into what were previously competitive markets."8/

Hard evidence that the A-J effect is a factor within the international telecommunications industry is difficult to find in light of the many industrial and operational requirements which govern investment decisions.

The third problem associated with rate base regulation concerns the use of international facilities by AT&T and the U.S. international record carriers. While these carriers own submarine cables, they can only lease satellite circuits from COMSAT.

> "The result is the terrestrial carriers' strong preference for cable, because their costs for cables are included in their rate-base and therefore permit a greater profit for a given rate of return, while lease payments to Comsat to rent satellite circuits are not included in the carriers' rate base."9/

While it may be debatable whether inactive rate base regulation allows the carriers to currently expand their rate base through "inefficient" investment decisions, it is an unavoidable fact that only cable facilities can be added to their rate base, further skewing investment choices.

> "The rate-base question has generated both interest and controversy... both WUI and OTP have proposed that each carrier be permitted to capitalize its satellite lease payments for appropriate inclusion in its rate-base. Such capitalization would help remove the economic discrimination between cable and satellite costs and serve as an incentive to make satellite circuitry more attractive."10/

2. Rate Structure

Section 201(b) of the Communications Act of 1934 states that charges for communication service "shall be

just and reasonable." In addition, Section 202(a) is specific in regard to rate discrimination:

> "It shall be unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with like communication service, directly or indirectly, by any means or device, or to make or give any undue or unreasonable preference or advantage to any particular person, class or persons, or locality, or to subject any particular person, class of persons, or locality to any undue or unreasonable prejudice or disadvantage."11/

The Commission has the power to suspend a proposed tariff filing of an international carrier for five months, and to initiate formal hearings as to its lawfulness. Detailed statistical and economic data must be filed with the Commission in accordance with Section 61.38 of the FCC's Rules and Regulations.

> "In the extreme, the Commission may, after a full hearing and a determination that the carrier-filed charges are in violation of the law, 'determine and prescribe what will be the just and reasonable charge...' In practice, the Commission often suspends the requirement for filing '61.38 data' and in practice, the Commission rarely prescribes a set of tariff rates."12/

Because the supporting tariff information is normally not filed with the Commission and because there has never been an international rate inquiry involving all* of the international carriers, it is difficult to determine if present rates are just and reasonable within the meaning of Section 201(b) of the Act. Formal rate proceedings may be necessary in order to make this determination for the future.

*The "Bellwether" case in 1958 only covered public message telegraph service. COMSAT rate case, concluded in 1975, only covered COMSAT international operations.

Two particular rate-setting practices of the international carriers are also considered a problem by some.13/14/15/ One practice is "rate compositing" where the carrier charges to the public are determined by a weighing of both cable costs and satellite costs; the other is "area rate setting" where rates to an area, e.g., Western Europe, are the same for a particular type of service regardless of the distance or actual cost of service. Transcomm felt that practical alternatives to these procedures appear to be relatively limited.16/

C. Policy-Related Problems

There are a number of past FCC decisions and actions which can be described as either the sources of policy-related problems or examples of effective regulation depending on one's point of view. For example, the TAT-4 decision, which prevented AT&T from providing alternate voice-data leased line service, may be viewed as effective regulation by the international record carriers, or as a problem by AT&T and others who may consider this restriction as not being in the public interest. For purposes of this paper, the following FCC decisions and actions are considered policy-related "problems" because they are both controversial and have broad impacts.

1. Planning and Licensing of Facilities

One of the most difficult and pervasive problems associated with international telecommunications today is the licensing of new facilities for overseas communications. According to Section 214(a) of the Communications Act of 1934:

> "No carrier shall undertake the construction of a new... (facility)... unless and until there shall first have been obtained from the Commission a certificate that the present or future public convenience and necessity require or will require...(the facility)...."17/

The licensing process was relatively easy to perform prior to the advent of commercial international communications satellite service in 1965 since the only quality facilities available for overseas service were submarine cables which filled rapidly. However, since 1965 there has been a constant conflict between the two

competing transmission media, with the cable and satellite proponents each advancing their respective technologies before the Commission to claim the maximal share of the market. Because the Commission did not institute specific licensing procedures (not subject to divergent interpretations), most of the facility authorizations were decided on an individual case or ad hoc basis. In order to improve the licensing procedures, the FCC issued a Notice of Inquiry (Docket 18875) on June 16, 1970 into the policy to be followed in future licensing of facilities for overseas communications. The FCC stated:

> "We think that, to the extent possible, we should formulate a policy which will govern our future licensing in the field of overseas communications and which will enable interested carriers to plan their own actions accordingly. Such action, rather than separate actions on an ad hoc basis, will be more conducive to the effective discharge of our statutory responsibilities, set out in the Communications Act, which, among other things, are designed to make available, so far as possible, to all the people of the United States a rapid, efficient, world-wide wire and radio communication service with adequate facilities at reasonable charges; and at the same time effectuate our responsibilities under the Communications Satellite Act in light of the objectives and policies set out in that Act."18/

In June 1971, the FCC adopted a Statement of Policy and Guidelines after receiving the various inputs* to the Docket. The four general guidelines were:

> "(a) the public interest requires that we promote the continued development of both cable and satellite technologies and their most effective and timely applications to meet future requirements for international communications services;

*Comprehensive comments were filed by the U.S. international common carriers, and OTP forwarded the Administration's viewpoint on the policy that should guide regulation concerning U.S. investments in new facilities.

"(b) the public interest also requires that we authorize the most modern and effective facilities available via both cable and satellite technology with due regard for efficiency, economy, diversity and redundancy;

"(c) the public interest and due regard for the concerns of the Administrations which operate the foreign end of cables require that care should be taken to minimize the need for imposing artificial formulae to govern the distribution of traffic among available media;

"(d) the public interest requires that the economies available from each advance in technology be reflected in charges for service."19/

The Statement of Policy also stated the FCC's intent to authorize facilities in line with the proposals of the European Administrations looking toward the maintenance of "reasonable parity." The Docket was never officially closed after the First Notice of Inquiry.

After nearly four years, in February 1975, a Second Notice of Inquiry in this Docket was issued. This Notice provided for a series of meetings open to all United States interested parties for the purpose of identifying, discussing and analyzing information on service requirements and alternative means for meeting such requirements. Three informal working groups, dealing with economics, traffic forecasting, and service reliability were formed with each of these groups submitting a report to the Chief, FCC Common Carrier Bureau, in May 1975. The working groups were to meet again later in the year, but additional meetings were never scheduled.*

*However, for purposes of exchanging information and discussion of the three areas, a Consultative Working Group on North Atlantic Telecommunications was formed, consisting of U.S. Government, industry, European, and Canadian representatives. The group has convened three times: Paris, June 1975; Washington, D.C., March 1976; and Rome, Italy, October 1976.

The Commission issued a Third Notice of Inquiry in Docket 18875 in November 1975 which requested additional information from each of the U.S. international carriers and other interested parties.

The Commission released a Further Statement of Policy and Guidelines in this docket in November 1976, reaffirming the existing policies cited above, and adopting the following additional policies and clarifications (the sections underlined constitute substantially new or revised policies in the opinion of the authors of this report):

> "a) The continuing availability of adequate, reliable, low cost communications facilities and services between Europe and North America is a matter of common interest and concern to communications users, operating entities, and governments in Europe and North America.
>
> "b) This Commission does not, as a matter of policy, favor the use of one technology over another nor any predetermined distribution of traffic or transmission capacity among alternative technologies or suppliers. Pursuant to our statutory mandate, our primary policy objective has been and remains the achievement and efficient utilization of the lowest cost combination of facilities which can satisfy valid traffic needs and service objectives, irrespective of technology or supplier. Within this basic policy framework, both cable and satellite technologies -- as well as any other -- can and should be afforded the opportunity to evolve.
>
> "c) The existing operational structure and attendant economic and other incentives of the international communications industry are not such as to lead automatically to the realization of the basic public interest policy objective enunciated above. Accordingly, this Commission must and will continue to scrutinize thoroughly both

facility installation and utilization proposals of U.S. carriers prior to authorizing these carriers' participation in such facility programs, in order to ensure that U.S. communications users are not unnecessarily burdened with excessive facility investments or inefficient utilization of authorized facilities.

"d) The need to consider such interrelated factors as diversity, redundancy, restoration and other means to provide continuity of service within the context of the operational structure and varying economic and other incentives and preferences previously cited severely limits our ability to make the necessary public interest evaluations in the context of isolated applications for individual facility authorization. Accordingly, we will not in the future consider the authorization of major facility investments and utilization proposals as isolated instances, but will instead evaluate them in the context of a comprehensive long range plan for the establishment and use of facilities to serve a particular geographic area during a specified future planning period. To ensure that all interested and affected parties have a full opportunity to participate in the evolution of a mutually acceptable long range plan for future facility establishment and use, we shall approach the adoption of such a plan through an iterative process as set forth in the Annex to this decision.

"e) In our public interest evaluation of both long range plans and specific facility applications, the primary criteria shall be those set forth in (b) above. For the purpose of cost analyses and comparisons, we shall consider as relevant only historical and/or projected investment and operating expenses -- as opposed to lease charges or tariff rates. Moreover, before we can adopt any such long range plan as a basis for specific facility

planning and authorization, we would necessarily require comparable commitments regarding the use of cable and satellite facilities.

"f) The evolution of mutually acceptable long range facility plans and the subsequent authorization of specific facilities will necessarily be a difficult and time-consuming process, given the necessity of accommodating this process to the differing legal requirements and operating arrangements of the sovereign nations involved. We shall make every effort to ensure the success of this effort, within our basic statutory mandate, public interest obligations, and legal system. As a part of our effort to achieve an acceptable plan, we also desire to explore, where beneficial, changes in the present ownership arrangements and provision of circuits within future transatlantic facilities. Specifically, we propose to explore the feasibility and desirability of substituting end-to-end provision of whole circuits within facilities, for the present arrangement whereby each terminal country provides fifty percent of each transatlantic circuit."20/

In this document, the Commission for the first time, formally recognized the need for a comprehensive plan for future facilities.

"... an essential prerequisite to the authorization of future facilities must be the development of a comprehensive plan, including appropriate commitments, regarding the overall deployment and use of of future cable and satellite facilities within a particular geographic area during a specified planning period."21/

Until now, cable and satellite interests have essentially developed plans independently of each other. COMSAT submits the INTELSAT plan for a new communications satellite system to the Commission for 214 authorization, and AT&T

together with the international record carriers do likewise for each new submarine cable system that has been negotiated with the foreign administrations. Thus, the coordinated planning mechanism necessary for the efficient and timely introduction of new facilities for overseas service has been effectively sidestepped by the industry in the authorization of future transmission facilities.

The Commission for the first time, has requested the international carriers to develop a comprehensive plan for the establishment and use of North Atlantic facilities up to approximately the mid-1980's. Detailed traffic forecasting and cost information were also requested in support of the comprehensive plan(s). At the same time, European entities are preparing their own master plan as an input for the next Consultative meeting. Where this step leads the industry in its planning of facilities and the FCC in its review of construction applications, is at this time uncertain.

The record above shows that after nearly seven years of FCC activities in this area, the problems of how to effectively and efficiently plan and license overseas facilities remain, albeit the issues have been somewhat better defined.

2. Relative Use of Cable and Satellite Facilities

The procedure which normally follows the licensing of international facilities described above is the activation of circuits. All carriers are required by Section 214 of the Communications Act of 1934 to obtain Commission approval for both the construction and operation of new facilities. The Commission procedure to date requires the carriers to obtain approval at each of these two stages.

The second stage, circuit activation, became a problem for the Commission after the introduction of communications satellites due to the separation of facility ownership between cables and satellites. The Commission felt that if it did not specify some general policy concerning the relative usage of cables and satellites, the carriers might have little incentive to use satellites because of their ownership in cables. The Commission was also aware of the Government's policy under the Communications Satellite Act of 1962 "to establish, in conjunction and in cooperation with other countries, as expeditiously as practicable a commercial communications satellite

system, as part of an improved global communications network."22/ When the Commission approved the construction of a new submarine cable between Florida and the Virgin Islands as well as the earth station at Cayey, Puerto Rico in 1966, it required that satellite circuits first be equalized with cable circuits.

> "Thereafter, additional circuits for all types of service requirements between the mainland and the eastern Caribbean area and beyond shall be satisfied on a 50/50 basis..."23/

A similar requirement was imposed when the fifth transatlantic cable (TAT-5) was authorized in 1968. The specific requirement known as "proportional fill" stipulated that the carriers use cable and satellite facilities in a manner such that each "reach 100% fill at approximately the same time."24/

In May 1971, the Commission granted an AT&T request to activate TAT-5 and satellite circuits on a ratio of five to one in favor of satellite for voice-only service. The Commission felt that this would satisfy the proportional fill requirement since the TAT-5 cable had a projected capacity of 720 (now 845) voice-grade circuits, and the new series of satellites, INTELSAT IV, which had also been authorized, had some 3500 voice-grade circuits.

Later, in the June 1971 Statement of Policy and Guidelines, the Commission stated that it was "looking toward maintenance of reasonable parity between cable and satellite circuits on transatlantic routes." Just what was meant by "reasonable parity" was not made clear.

> "This new definition coupled with the fact that the 5 to 1 ratio was still being used, left the Europeans with an 'open question' regarding U.S. views on the manner by which traffic would be apportioned between the media."25/

The Commission modified its views in October 1971 and stated that the fill formula for telephone service should be on a 1 to 1 ratio between the TAT-5 cable and satellite circuits. The IRC's were exempted from a fixed ratio but restricted to the activation of no more than 20% of their remaining TAT-5 circuitry in any 6-month period. When the Commission authorized the construction of the sixth transatlantic cable (TAT-6) in July 1972 it stated:

> "We do not believe that it is necessary or even appropriate for us to prescribe specific formulas or rules concerning the manner in which available circuity should be utilized." 26/

However, in the same document the Commission stated that it:

> "... would expect that where European entities either construct their own or arrange to use the facilities of others to communicate with both Intelsat-IV (F-3) and (F-4) they would diversify, by dividing their growth traffic in an equitable manner equally among the three facilities, i.e., the two satellites and TAT-6.... Where European or other foreign correspondents do not construct or arrange to use two Atlantic Basin antennas, we would expect them to diversify by dividing their traffic between the one satellite and TAT-6." 27/

Thus the Commission caused more confusion by allowing interpretations of 1 to 1 in some cases and 2 to 1 in favor of satellites in others.

The Commission has repeatedly stated in Docket No. 18875 that its primary objective remained the achievement and efficient utilization of the lowest cost combination of facilities. Unfortunately, the Commission has not been able to describe how it will decide on the lowest cost combination of facilities which can satisfy valid traffic needs and service objectives.

3. International Rate Setting

The international carriers must file proposed tariffs with the Commission just as the domestic carriers do. However, international ratemaking is in essence a product of negotiations between U.S. carriers and foreign entities. The features of international message-telephone agreements and accounting arrangements are described briefly herein but similar features and procedures apply for other international services such as Telex.

At present, AT&T and each foreign correspondent negotiate a service or operating agreement which normally has the following features:

> "A. Each carrier provides half of the (joint) facility.
>
> "B. Both lease half of any transit facilities.
>
> "C. Both provide the terrestrial facilities in their respective countries.
>
> "D. Each, having provided half of the facilities, agrees to receive half of the negotiated accounting rate* (bilaterally developed) for the service.
>
> "E. Each agrees in principle to charge the same collection rate** for calls to the other country."28/

The international ratemaking process is complicated by the differences between the U.S. and foreign entities concerning procedures and attitudes toward telephone rates. The differences are summarized as follows:

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*The basic rate used for international bookkeeping purposes.

**The rate the user (consumer) pays.

"As far as collection rates are concerned, AT&T charges its subscribers the same rate as the agreed to accounting rate negotiated with the overseas correspondent. However, many of the overseas correspondents charge their subscribers more (although they settle with AT&T on the negotiated [accounting] rate). Many foreign correspondents view international telecommunications as a profitable money making business which provides revenues for subsidizing various domestic services. The U.S. on the other hand, favors reasonable international rates along with a fair rate of return for the U.S. carriers. Foreign collection rates are to a large extent the particular countries' own business, although the existence of a negotiated rate provides indirect incentive toward equal rates at each end."29/

The difference between collection and accounting rates can best be described by means of an example. The per minute station rate for a call from the United States to Japan is $3 (collection rate), and the corresponding accounting rate is also $3. This means that $1.50 is credited to the United States carrier (AT&T) and $1.50 is credited to Japan. This same share of the accounting rate ($1.50) is credited to the United States when the call originates in Japan even though the Japanese collection rate is higher than that of the United States. If the number of calls for any given month were the same in both directions (balanced traffic), the correspondents' payments would net out, i.e., no settlement payout. If, on the other hand, there were more paid calls in one direction than the other, a settlement payout would be required. The main point to understand is that AT&T and their foreign correspondents share equally in the negotiated accounting rate, regardless of the amount collected at either end.

In the past, U.S. induced collection rate reductions have resulted in an equivalent reduction in the accounting rate. A series of problems will arise

should the Commission require a U.S. carrier to reduce its collection rates, when the U.S. carrier has not been successful in negotiating a corresponding reduction in the accounting rate with the foreign entity.

For example, assume that the Commission would order AT&T to reduce its rates to Japan by 20%. Using the same figure as above, the $3 collection rate would be reduced to $2.40. Ordinarily, AT&T and their Japanese correspondent would negotiate a $2.40 accounting rate which would mean that $1.20 would be credited to both AT&T and Japan. If the Japanese would not agree to a reduction in the accounting rate, $1.50 (share of original accounting rate) would still have to be credited to the Japanese on every U.S. outbound call, leaving only $.90 to be credited to AT&T for excess outbound calls. On each outbound call in excess of the number of inbound calls, AT&T would be forced to reduce its revenues by 40%. Instead of splitting the U.S. collection rate on a 50/50 basis with the Japanese, it would now be split 62.5/37.5 for the excess traffic in favor of the Japanese. If the excess traffic were small compared to total traffic, there might not be a great impact on AT&T's revenues. However, if the balance traffic rises or if the same procedures are followed for other countries as well, the impact could be of significance to AT&T and to the United States.

The U.S. is confronted with a major problem. On the one hand, if the Commission were to force the U.S. carriers to absorb the foreign share of the rate reduction, the carriers would be placed in an unfair service arrangement and the U.S. would lose its influence over international rate setting. "The single negotiated (accounting) rate tends to limit extremes and clearly denies the initiative to those correspondents desiring high international rates."30/ On the other hand, if the Commission were thwarted in reducing U.S. rates (or in maintaining present rates) due to the arbitrary actions of foreign partners this would be detrimental to the U.S. national and consumer interests. Clearly, improvements are indicated in the bargaining process between the U.S. carriers and their foreign correspondents rather than revising the present accounting/settlement process.31/

4. Foreign Relations

International telecommunications is accomplished by a cooperative undertaking among the U.S. carriers and their foreign counterparts. In most countries, international telecommunications are provided by a government entity; in some instances, by a government/private industry arrangement; and in a very few cases, by a private company.

Cable facilities serving the United States are jointly owned by the U.S. carriers and their respective foreign correspondents. Satellites are collectively owned by all participating countries through the INTELSAT organization. The satellite earth stations are owned by the entity(ies) of the individual countries, and in the United States are owned by COMSAT (50%) and the other carriers.

Up until the planning stage for the fifth transatlantic cable (TAT-5), the FCC did not play an active role in the international process of facilities selection. However, during the TAT-5 planning stage the Commission requested detailed information from the carriers (including COMSAT) and also informed them not to make any agreements on facilities with their foreign correspondents until it ruled on the appropriateness for them to file applications for the proposed cable system. The Commission subsequently approved the cable but required rate reductions in the process.

Later, in 1970, the Commission refused to approve an SF-type 845 circuit cable for the sixth transatlantic cable, (TAT-6); this was favored by both the U.S. carriers and their European correspondents. However, the Commission concurrently stated that it would approve a more cost effective SG-type 4000 circuit cable for this application.

In 1972, the United Kingdom and Canada proposed a new 1,840 transatlantic submarine cable (CANTAT-2) between their two countries. Neither the U.S. carriers nor the FCC favored this facility and, as a result, the FCC made it clear that the U.S. did not intend to extensively utilize it. The cable was constructed despite this background and a number of problems resulted. Some of

the foreign entities backing the cable still expected to use it for U.S. path traffic. The U.S. carriers, facing a delay in the implementation of the new TAT-6 cable (as a result of earlier FCC rejection of TAT-6 SF proposal), reversed their earlier stand and proposed extensive utilization of the CANTAT-2 cable rather than use more satellite circuits. COMSAT objected to these proposals and the FCC, despite relatively extreme pressure, generally held to the original concept of not accepting CANTAT-2 as a U.S. major path facility. The FCC has continued to limit U.S. carrier utilization of it, although a final decision with regard to further utilization of this cable has not yet been reached.32/ It should be clear that the FCC was placed in a no-win situation; denying the cable would impair foreign relations, while approving the cable would impair U.S. national interests.33/

In 1974, before approving the new transpacific cable (TRANSPAC-II), the FCC ordered AT&T to undertake negotiations with their foreign correspondents, looking toward a reduction in rates. This action was not well received by the foreign entities. Later, when Hawaiian Telephone Company (HTC) and AT&T attempted to negotiate such rate reductions, Japan, Korea, Philippines, Hong Kong, and Taiwan all balked. This matter still has not been resolved, but service has begun with FCC approval.

Relations between the U.S. and European (CEPT) administrations became severely strained in March 1976, due to the Commission's delay in approving the activation of TAT-6 circuits. This cable was due to be placed into service in July of that year. On March 19, 1976 the CEPT administrations imposed an embargo on further circuit activation in all cable and satellite facilities in the North Atlantic Basin pending FCC action on the TAT-6 circuit activations. The embargo was officially lifted on May 3, 1976 in expectation of a satisfactory and timely FCC decision on TAT-6 circuit activation.

In general, the foreign entities object to the United States regulatory procedures which "give the FCC the power to overturn facility and service agreements that have been freely negotiated between the U.S. carriers and the foreign entities."34/ In addition, "the

Europeans and several other foreign countries are strongly opposed to... rate decreases as they use revenues from overseas telecommunications service to subsidize domestic telecommunications and/or postal services."35/

Some of the FCC actions may be justified, while others may not be. In any event, an unwanted problem continues--poor U.S.-foreign relations in telecommunications.

5. Authorized Users

The advent of commercial communications satellite service in 1965 prompted much interest by prospective users in how to obtain service directly from COMSAT. There was uncertainty as to COMSAT's role as a carrier due to the language in the Communications Satellite Act of 1962 which authorized COMSAT "to contract with authorized users, including the United States Government, for the services of the communications satellite system..." without specifically defining authorized users. In June 1965, the FCC released its Authorized User Inquiry, and thirteen months later released its decision in this matter: The Commission's ultimate conclusions were:

(a) COMSAT may as a matter of law be authorized to provide service directly to non-carrier entities;

(b) COMSAT is to be primarily a carrier's carrier and in ordinary circumstances users of satellite facilities should be served by the terrestrial carriers;

(c) In unique and exceptional circumstances COMSAT may be authorized to provide services directly to non-carrier users; COMSAT may be authorized to provide service directly to the Government, whenever such service is required to meet unique governmental needs or is otherwise required in the national interest, in circumstances where the Government's needs cannot be effectively met under the carrier's carrier approach.36/

Thus COMSAT was relegated to serve the established carriers rather than compete with them by being allowed to provide service, e.g., private line, directly to the consumer.

6. Alternate Voice-Data (The TAT-4 Decision)

With the introduction of the first transatlantic telephone cable (TAT-1) in 1956, AT&T was able to provide telephone service over the submarine cable at a much higher quality and greater reliability than possible by high frequency radio systems.

A second transatlantic cable (TAT-2) became operational in 1959. The international record carriers leased channels from AT&T in each of the first two submarine cables for telegraph services, and all carriers including AT&T were authorized that year to provide a new service called Alternate Voice Data (AVD) to the U.S. defense agencies. This service allowed voice, alternate voice/data, or simultaneous voice/data service.

A third transatlantic cable was put into service in 1963. Later that same year, AT&T filed an application with the FCC for another submarine cable across the Atlantic (TAT-4). In addition, AT&T requested authorization to modify TAT-3 for AVD service to commercial as well as military customers, and to expand the AVD services over TAT-1 and TAT-2 to all customers. AT&T offered to lease channels to the international record carriers for AVD services.

The AT&T applications were opposed by the record carriers on the grounds that they should share in the ownership of the new cable and that AT&T should not be authorized to provide any record services.

In its TAT-4 decision in 1964, the FCC authorized the new cable and allowed the record carriers to share in its ownership, but denied AT&T authority to provide additional AVD service, thus giving the international record carriers virtual domain over this service. The FCC stated:

> "A realistic appraisal of the relative capabilities of AT&T and the record carriers to secure and maintain such business leads us to conclude that AT&T's entry into this service would seriously jeopardize the ability of the record carriers to obtain a meaningful share of the business...

> It is in the public interest that we assure the viability of the record carriers by protecting them from the losses they would inevitably suffer were AT&T permitted to provide this voice-record service."37/

The AVD restriction on AT&T has been a subject of discussion, for example:

> "A major concern evolving around the AVD issue is the impact on the industry's (IRC's) ability to continue to provide basic record services to the U.S. consumers. This would require looking at the services' profitability, market size and other trends. The second concern is the determination of the benefits that the user would obtain from AT&T entry into this market.
>
> "It is contended that gains from the latter may not offset the possible losses of the former, at least until quantitative analysis proves otherwise."38/

7. Gateway Cities and International Telecommunications

The gateway cities concept was originally intended as an expediency between "domestic" and "international" telegraph operations. Under Section 222(a)(5) of the Communications Act, gateways are continental U.S. cities where IRC's may pick up originating telegraph messages destined for overseas, or deliver overseas messages destined for the United States. The IRC's can operate directly with the public from their offices in these cities; however, IRC's services to other customers located within the continental United States (hinterland) are provided only through connections with these cities' domestic WU or telco networks. Thus the IRC's, which are responsible for overall international service, control only part of the U.S. facilities involved. Currently, there are five gateway cities: New York, Washington, D.C., San Francisco, Miami, and New Orleans.

The IRC's challenged the gateway cities concept on two fronts in FCC Docket No. 19660.39/ First, under a set of tariff revisions, the IRC's sought to obviate the concept by proposing to absorb the charges for calls via WATS, WU telex, or WU TWX to or from hinterland customers as the final mode for receiving or sending international message telegrams. Second, the IRC's sought to increase the number of gateway cities to as many as 21 in an attempt to reduce the domestic networks usage for the mainland portion of international messages.

In its final order, the FCC found the free direct access terms of the IRC's tariff proposals as effectively extending service to the hinterland, and since this was in direct conflict with the legal statue (Section 222), it denied this aspect of the IRC's request. Nonetheless for many observers, the problem still remains and they continue to maintain that the public interest is not being served by denying users a cheaper and faster access by transmission media non-existent at the time Section 222 was enacted. The appropriate redress is to Congress to request revision of the law.40/

The second part of the IRC request dealing with an increased number of gateway cities, resulted in the present total of five, accessible to each IRC on an equal basis. Previously, ITT, RCA and WUI were limited to gateway operations in New York, San Francisco, and Washington, D.C.; TRT was limited to Miami and New Orleans gateways.

8. International Formula for Unrouted Telegraph Messages*

Section 222(e)(1) of the Communications Act of 1934 requires the domestic telegraph carrier to distribute unrouted outbound international telegrams on a quota basis. This quota is known as the International Formula, whose entire concept has been reevaluated by the FCC in formal proceedings throughout 1975.

*Overseas transmission of telegraph messages may either be routed or unrouted depending on whether or not the customer specifies the international record carrier.

When the Western Union Telegraph Company and the Postal Telegraph Company merged in 1943, WUT was to divest itself of all overseas operations. In order that WUT could not favor its own operations between 1943 and the date of complete divestiture (which turned out to be October 1, 1963) or favor any of the international carriers thereafter, a specified distribution quota of unrouted message traffic was set up to approximately divide the traffic on a basis similar to the actual distribution during the year 1942. This distribution quota is still in effect for the approximately 230,000 unrouted messages filed each month.41/

If a carrier receives routed traffic in excess of its historical share, the formula acts to take away unrouted traffic in an effort to preserve quota balance. Since relative market shares have changed since 1942, (as have carriers and routes served), the carriers with improved market sales are penalized by being denied unrouted traffic. Conversely, the IRC's who have lost market shares receive additional unrouted traffic through the workings of the formula designed to preserve 1942 traffic patterns.

The decision on this matter was released on January 7, 1976. The FCC order:42/

(1) Abolished the formula prescribed by the Commission in 1943,

(2) Requested comments regarding the customer routings of all messages, and

(3) Prescribed the use of an interim formula.

The interim formula represents a departure from the 1943 formula, since new quotas will be calculated each year on the basis of traffic routings from the previous year. Nonetheless, the concept of any kind of formula is not a true competitive solution.43/ The interim formula became effective November 13, 1976, but RCA Global Communications, Inc. has appealed the Order in the U.S. Court of Appeals for the Second Circuit in New York City.

9. Interconnection of International Telex and Domestic Telex and TWX Services

International telex service is presently provided by five IRC's; however, each IRC does not provide service to all overseas points. In the gateway cities, the IRC's offer service directly to subscribers by means of a network of tie lines and teleprinters provided and maintained by the IRC for a nominal charge if any. However, since no interconnection exists between the IRC's, a non-Western Union (WU) customer must subscribe to services of more than one IRC if communications are needed to all overseas destinations.

Telex and TWX services between points within the Continental United States are provided solely by Western Union. Thus WU subscribers have access to all overseas points since they can interconnect through WU with all of the IRC's. However, under present FCC rules WU subscribers may not use their terminals to communicate with any IRC subscriber, and vice versa, nor may IRC subscribers use their terminals to communicate between each other.

The Commission released a Notice of Proposed Rulemaking44/ on December 9, 1976 in which it ordered that an investigation, rulemaking and hearing be instituted in this matter.

10. Resale and Shared Use of Services and Facilities

On June 26, 1974, the FCC adopted the Notice of Inquiry and Proposed Rulemaking concerning resale and shared use of common carrier services and facilities. The Commission invited comments on a number of issues which raised, in various form, the basic question:

> "...whether, and under what conditions, subscribers of the various service offerings of communications common carriers should be allowed to resell such services to others or to participate with others in the sharing or joint use of such services, and, if so, whether and to what extent the Commission should regulate any such resale or shared use."45/

The Commission released the Report and Order on resale and shared use on July 16, 1976, in which the following definitions of resale and sharing were established:

> "Resale is the subscription to communications services and facilities by one entity and the reoffering of communications services and facilities to the public (with or without 'adding value') for profit."
>
> "Sharing is a non-profit arrangement in which several users collectively use communications services and facilities provided by a carrier, with each user paying the communications related costs associated therewith according to its pro rata usage of the communications services and facilities."46/

The essential findings of the FCC Report and Order with relevance to international telecommunications are as follows:

> "We find that there are no economic justifications for the partial retention of such restrictions, and we accordingly find unlimited resale and sharing of private line services (including those of the International Record Carriers) to be just, and reasonable. However, the record does not support any change in the restrictions on MTS..."
>
> "We find that an entity engaged in the resale of communications service is a common carrier, and is fully subject to the provisions of Title II of the Communications Act."
>
> "Because sharing does not constitute the offering of a service by one entity to others for a profit, we find that entities engaged in sharing arrangements are not subject to regulation under Title II of the Act."

"We find that with one exception, there is no reason to regulate a resale common carrier any differently than any other common carrier. The exception is that we find the public interest will be served by allowing open entry into the market for resale services, and thus we do not require a special showing of public need for the particular service being proposed as a condition of certification."47/

As a result of this decision there will "be a departure from the tradition in the communications industry where carriers owning and operating transmission facilities generally supply a complete communications service directly to the ultimate user."48/ The impact of this decision could have a profound effect on international telecommunications.49/

Despite various petitions for reconsideration, the Commission affirmed its policy requiring resale and sharing of private line communications services and facilities in January 1977. However, it stated that this policy would not be extended to international services at this time and that a separate proceeding would be instituted in this area.

11. Earth Station Ownership

Earth Station ownership was an issue even before the first commercial communications satellite was launched in 1965. This was due to the provisions of the Communications Act of 1962 which provided for multiple owners of U.S. earth stations. In the Act, COMSAT was specifically authorized to "own and operate satellite terminal stations" when licensed by the Commission. In addition, the Commission was authorized to:

"...grant appropriate authorizations for the construction and operation of each satellite terminal station, either to the corporation or to one or more authorized

carriers or to the corporation and one or more such carriers jointly, as will best serve the public interest, convenience, and necessity..."50/

The Commission's initial decision in May 1965 authorized COMSAT to construct and operate the first three U.S. earth stations. In 1966, the Commission changed the ownership arrangement and authorized COMSAT to own 50% of each earth station and the carriers the other 50%. COMSAT was granted the responsibility for operating the earth stations for the earth station consortium. This ownership and operating arrangement, even though an interim one, still applies today.

The opinion that "the current situation lacks incentive for the record carriers and AT&T to expand the use of earth stations"51/ has been expressed by some writers.

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CHAPTER V

ALTERNATIVE INDUSTRY ARRANGEMENTS SUMMARY

A. Introduction

This chapter summarizes the alternatives which were developed in the major studies referenced in Chapter I, Section E. While there may be additional alternative industry arrangements for each industry segment, only those presented in the above studies are summarized.

The alternative industry arrangements are divided into four sections: single entity, record industry, AT&T, and COMSAT.

B. Single U.S. International Telecommunications Entity

The concept of a single entity, rather than multiple independent carriers, to provide international telecommunications service is not new. The majority of studies in this area has assumed that the single entity would most likely be a carrier's carrier, like COMSAT, and would provide all the transmission facilities (submarine cable, satellite, high frequency radio, etc.) rather than the services at the retail level (i.e., telephony, telegram, telex, private lease, etc.) There are a number of issues such as competition, innovation, and the complexity of service and customer needs, which are generally accepted by these studies as precluding such a consolidation at the retail level.

1. Single Government-Owned Entity Alternative

Very little research has been reported on a government entity alternative. The U.S. has normally viewed telecommunications as a basic service most effectively provided by the private sector. Indications are that the relative cost of service to the consumer is much higher in other developed countries[1] where government entities provide the services.

Besides being against the existing pattern of free enterprise, the establishment of a single government-owned entity would involve a number of major practical problems. Karydes observes that when a government entity is involved, "Funding of telephone service has had to compete with other and usually more compelling demands upon government funds."[2] It has also been noted

that "A major problem at the outset of implementation (of the single entity) would be indemnification of COMSAT and other carriers."3/ As far as regulation is concerned, Transcomm states "Intensive regulatory effort would still be required.... The current Postal Service organization is an example of this situation."4/ Gabel observes that a government-owned single entity would provide "even greater opportunities for establishing additional vice-presidencies in a regulated, government-sponsored monopoly."5/ Another factor to be considered is that "the loss in revenue to the private sector of the economy would not be insignificant."6/

As far as theoretical benefits versus costs are concerned, it has been suggested that "Success of such an entity would depend on the government's ability to insulate it from political influence and to provide it with a certain amount of organizational independence so that it would have incentive to operate efficiently."7/

2. Single Privately-Owned Entity Alternative

A considerable amount of research has been devoted to the concept of a privately-owned single entity supplying international transmission facilities. The 1968 Presidental Task Force on Communications Policy8/ advocates the establishment of such an entity and proposes that such an entity would:

a. Promote facility optimization and achieve available economies of scale

b. Further U.S. foreign policy objectives

c. Help resolve the anomalies of COMSAT's role and function

d. Resolve the problems of the IRC industry

e. Improve the prospects of effective regulation

The report generally concludes that the then existing telecommunications environment with its attendant problems, many which still exist even today, presented insurmountable problems with respect to effective competition. Unstable competition between the transmission suppliers would lead to regulatory safeguards, thus permitting the technologies to develop on some basis of accommodation rather than cost.

The single entity would consolidate transmission and switching plant of the carriers, exploiting economies of scale without any preference for either technology. In effecting this transmission highway or pipeline, costs would become easily identifiable and rate structure would become simple.

In summary, the Rostow Report advocates a single transmission-only entity which would be subject to strengthened government regulation, and would not engage in domestic services or manufacturing. Should a single entity not be adopted, Rostow advanced that the capabilities of regulation be augmented along with the development of rate-making abilities.9/

Later studies generally conclude that no pressing case can be made for a single entity. Gabel notes that the 1968 report offered little supporting material and also, that "While conclusions of faith are necessary in the religious domain, they fare poorly when confronted by the realities of corporate objectives."10/ Black goes into extensive analysis of the theoretical assumptions and concludes that, "So far as technical and economic considerations are involved, the argument for a single entity combining satellites and cables does not seem to be so strong as that for single management of cables and single management of satellites. The arguments are even weaker if a policy of single technology per route is implemented."11/

If one were to review the various OTP-sponsored studies, a number of key factors are indicated:

a. The achievement of greater economies of scale through creation of a single entity is not necessarily a reasonable expectation, as noted above.

b. Assuming that such economies of scale did occur, there is no guarantee that the savings would be flowing through to the consumer.12/13/

c. The presumption that foreign administrations would agree to competitively reducing rates clearly appears to be unfounded.14/15/16/

d. Rather than simplify regulation, a single entity could be much more difficult to regulate.[17][18][19]

e. However limited the degree of present competition, the substitution of a pure transmission monopoly could have serious economic and social drawbacks.[20][21]

Aside from the key factors which confront the assumptions of the 1968 Report, a number of more pragmatic problems have been recognized. Transcomm notes that each of the existing carriers serves a "different submarket with consequent differences in orientation, emphasis, personnel and the like. Choosing any one of these entities will require substantial changes..." [22] A related view from another study concerns the influence which operating carriers would retain in the industry once a single entity was established. Gabel states "There would be no alternative as transmission supplier, merely different technologies at probably uniform prices."[23]

A heavy regulatory workload is generally recognized as resulting from this alternative. Transcomm notes that "Although some regulatory problems will be mitigated... others will not and new ones may be added.... The regulatory authority will have to ensure a balanced and efficient carrier policy to control rates, if not develop new forms of regulation as well."[24] Gabel observes that there would be "a substantially greater need to conduct cost studies on a 'separated' basis, by service classification" and that "far more intensive scrutiny of carrier investment decisions would be required of the Commission than has been exercised heretofore. And it would not be aided by adversary presentation."[25] Yet another view is that "most of the required tools (for regulating a single entity)... remain to be developed."[26]

There are also a number of subtle problems which could arise in the case of a single entity transmission supplier. The consumer rates for services over light traffic routes are at the present time cross-subsidized by the rates for services over the heavier routes. In the case of consumer rates for international telephone service, it would appear that light traffic routes are at present subsidized by the heavier routes, as the Basic (weekday person) rate is essentially uniform over most U.S. overseas paths. While none of the studies endorses cross-subsidy, two recognize it as a significant point of consideration. Transcomm suggests that the single entity might concentrate on the largest most efficient facilities suitable to large paths without recognizing that "cross-subsidies may be required to ensure either satellite or

cable service to the higher cost routes (i.e., thin routes)."27/ In a somewhat similar vein, Cole suggests that, while there is some evidence that a degree of geographic cross-subsidization may exist within a particular international service, "it is not suggested that this should automatically be translated into higher rates here versus lower rates there, as there are many other considerations."28/

Gabel indicates that from a standpoint of historical precedent, the concept of a single entity is not desirable. He observes that a report prepared several years after the 1928 British merger of telegraph cable and the newer (HF) radio services concluded that "the radio companies which joined the merger appear to have suffered disproportionately due to the fact that the cable interests have been protected to the disadvantage of radio."29/ Another case Gabel referenced was the 1943 consolidation of Western Union and Postal Telegraph, where the merger not only failed to solve the problems which faced the firms but also compounded them by capitalizing the value of the previous entities and by eliminating service competition.30/ He notes that "While the Commission would exercise overview of the rate base investments established by the new carrier, non-plant elements (organization, franchises, etc.) have the facility of getting into the (new) rate base in any event."31/

The problem of how to efficiently promote two or more competing transmission technologies and to ensure that both are fully developed and economically exploited are serious obstacles when considering a single entity alternative. Whether or not a single entity would accomplish this task is unclear, although U.S. policy with respect to technology is specific in this regard. The Commission stated "The public interest requires that we promote the continued development of both cable and satellite technologies and their most effective and timely applications to meet further requirements for international communications service"32/ and this statement has been confirmed over subsequent years. Yet another consideration is that both satellite and submarine cable have continued to undergo rapid and substantial technological improvement over the years, with neither becoming the dominant high capacity source. In this regard, Transcomm observes that the single entity approach would not resolve the problems of propor-

tional fill and composite rates. Transcomm states, "The former area will still be a problem related to new investment decisions, especially on existing routes that have excess satellite or cable capacity or ones for which foreign entities have developed a strong political position."[33] Gabel notes that "We can anticipate that, given the opportunity, a transoceanic 'chosen instrument' (single transmission entity) would promote system optimization only in the sense of... maintaining market domination."[34]

A final observation on the potential technological impact of a single entity is "Any trend toward development of satellites to the exclusion of cables would decrease the reliability (i.e., redundancy and diversity) of the communications system since adequate back-up facilities would not be available in case of service outages."[35][36]

The impact of a single entity upon research and development raises a number of questions. Transcomm implies that the R&D functions, including submarine cable, could be transferred to the single entity. Transcomm states, "Alternatively, including the cable research, development and manufacturing organizations of AT&T and ITT would balance the satellite research and development capability acquired from COMSAT."[37] Cole, however, suggests that it would be difficult if not impossible to do, "one solution might be for some type of contractual relationship to be established between the new company and Bell Labs/Western Electric. This could prove troublesome to effect as it would clearly require legislation. The other approach (i.e., break off those assets of Bell Labs/Western Electric needed for submarine cable technology) does not appear to be feasible either."[38] It should be noted that Bell Labs, which provides R&D for both AT&T and Western Electric, is funded approximately 50/50 by Western Electric and AT&T, the latter through the License Contract Fee accessed by AT&T Headquarters (which is a percentage of the operating revenues of the operating telephone companies).[39]

Finally, the potential reaction of the foreign correspondents to a single U.S. entity is viewed somewhat differently among the studies. Transcomm suggests that "Consolidation into a single entity would generally lessen the ability of foreign entities to directly influence the growth of one transmission mode over another."[40] On the other hand, Cole observes that while there would be a number of potential benefits in this area (i.e., reducing confusion and promoting a stronger negotiating position),

"there would be a need for constant and effective regulatory review, however, to make sure that there was no collusion of undesirable tradeoffs with the foreign correspondents."[41]

C. Alternative Record Industry Arrangements

The international record carrier structure is dominated by three large carriers, RCAG, ITT, and WUI. A fourth, TRT, has been expanding in recent years and the two remaining IRC's are the relatively small carriers, French Cable, and U.S.-Liberia Radio (a Firestone subsidiary). The structure could be described as the end result of a long history of regulatory attempts to promote competition through multiple carriers, beginning with the Duplicate Circuit Policy of 1928.[42] Despite relatively formidable opposition from the foreign administrations in the 1930's and 1940's, the regulator substantially achieved the original goals.

Following the introduction of international submarine telephone cables (1956) and satellite service (1965), the rapid expansion of international telephony resulted in the decline of the international record industry from its former dominance to approximately 20% of the international circuit requirements in recent years.

Message telegraphy traffic growth was nominal prior to 1956 and significantly lower thereafter, whereas telephony traffic was growing at a substantial rate.[43] (See Table 5-1.) In 1964, the FCC in effect allocated the alternate/voice data (AVD) market to the IRC's via the TAT-4 decision. One industry authority suggests that the reason for this decision was concern that telegraphy, the major revenue source of the IRC's, was slowly dying and that the survival of the IRC's and the various services they supply could be in jeopardy.[44] The fact that the record industry is reasonably healthy today however can probably be attributed to the rapid growth of telex service replacing declining telegraph revenues as well as to the allocation of the AVD market in 1964.

The following summary examines various alternatives for industry structure or regulation of the international record carrier industry and also examines the subject of competition and its likely impact.

TABLE V-1

WORLDWIDE GROWTH RATES

Time Period	Average Growth Rate International Telegraph Messages*	Average Growth Rate International Telephone Calls
1946-1956	3.7	NA
1956-1964	1.1	19.0
1965-1975	-1.3	34.2
1971-1975	-4.3	30.7

*Average growth rate of telex which began in 1964 is:

1965-1975: 31.3%
1971-1975: 27.9%

SOURCE: OT/ASD Report, "Percentage Growth of Telecommunications Data", pp. 338, 621, and 82[illegible], June 1976

1. Retain Status Quo Alternative

The major study of alternative industry structure for the IRC's was conducted by Richard Gabel. The first alternative considered was retention of the status quo in which Gabel makes the following observations:

> "[J]udging, however, from the earnings history of the record carriers, savings...have been internalized to the carriers."45/

> "The persistence of excess transmission capacity in the industry is indicative of poor investment timing, overly optimistic demand forecasts, a penchant for rate base development, or possibly all three."46/

Along these same lines, the 1966 Stanford Research Institute study suggests that there is substantial duplication of IRC investments (computer switching and transmission facilities) with the resultant effect of increasing costs.47/

Gabel concedes that "while redundancy of plant facilities can contribute to higher costs, they are not necessarily controlling."48/ Given changes in the status quo, "More effective management (brought on by) greater taughtness in administration by the competitors can be more persuasive in affecting overall cost of operation."49/ Presently however, "It is common for large international communication customers to have two, three and as many as five teleprinter machines sitting side by side...competition (under these circumstances) invariably generates duplicate facilities, and additional costs."50/ Gabel then goes on to note that, "It is not clear whether the advantages of duplicate suppliers outweigh these costs."51/

Past regulatory decisions have been suggested to "bode more strongly of cartel management, rather than public interest regulation. The Commission appears to have been concerned that each member of the industry obtain its 'fair share' of business."52/ As one industry authority remarked, orientation of much existing regulatory policy is toward "money honesty" (i.e., keeping the books properly) rather than efficiency; much of this is traceable to the thinking reflected at the time the Communications Act of 1934 was written.53/ The existing

legal requirements force the IRC's to connect their circuits between the U.S. gateways and the hinterland via other carriers--Western Union primarily. While the IRC's are literally allocated the AVD market (AT&T is barred), they are sometimes blocked from utilizing more efficient multiplexing techniques and severely restrained from any markets where even a modicum of computer processing is involved.[54]

While there have been some technical innovation and some substantial rate reductions in the private lease area, rate reductions have generally been resisted in the public message area.[55] In this area, the carriers prefer to compete on the basis of service enhancement rather than price. Gabel suggests that "On the surface, and in view of the past level of industry earnings, it would appear that considerably larger and more widespread rate reductions could have been ordered after investigation."[56]

While it has been suggested that a higher degree of competitiveness would resolve the rate reduction issue, recent events highlighted by resale and sharing of services and facilities would appear to be leading toward more compartmentalization of the industry. The recent Report and Order of the FCC Docket on Resale and Sharing, No. 20097 and the Computer Inquiry Docket No. 16979 propose opening the door to an unlimited number of new carriers authorized to compete against the IRC's in their private lease markets, to sell new computerized services, and in some cases to possibly encroach upon various existing IRC markets. As noted previously, the IRC's could be effectively barred from the new markets (unless they established arm's-length subsidiaries) although the line between what constitutes a basic common carrier service and the same service plus a modicum of computer processing, is not clear. The complexities of this situation have not yet been resolved; the Report and Order (international aspect) has been stayed and the Computer Inquiry continues. Cole notes that opening IRC private lease markets to extensive competition may erode public message services as well.[57]

2. More Effective Regulation Alternative

Gabel indicates that more effective regulation could effect substantial improvement without requiring restructuring of the IRC industry. He examines rates, observing that essentially the same rate structure has been in effect for 50 years and that FCC activity in this areas has been notably absent.[58] This study observes that, "The few major rate reductions which have taken place since 1958 (telegraph rate case) have been largely in the international private line area with limited beneficiaries."[59]

Gabel suggests that there is opportunity for restructuring of rates, "The fact that the industry has maintained the present message rate structure virtually intact for over fifty years may be evidence of its clairvoyance, or it may be evidence of ossification."[60] He suggests that the Commission investigate the rate pattern of both voice and record (telegraph, telex, data channel) services. The logic of rate relationships, such as disparities in rates (where the rate to one point is lower than the rate to a closer point) is one area suggested for exploration.[61] Following these steps, Gabel recommends application of the "Bellwether Doctrine". The Bellwether concept refers to the 1958 Commission statement, "we intend to authorize a level of rates herein generally designed to meet the fair rate of return requirements of the most profitable general service carrier, which we have determined to be RCAC for the purpose of this proceeding."[62]

As far as impact upon investment is concerned, Gabel observes:

> "The industry has been characterized by excess capacity in transmission facilities, significant redundancy in customer terminal equipment (printers) as well as suspected over capacity of switching and computer equipment. More decisive regulation could improve these situations even under conditions of independent carrier operation. A first step would require universal interconnection of all record carriers. Application of the "Bellwether"

doctrine might compel the less efficient carriers to explore lease arrangements in another's computer and switching systems."[63]

Review of the Authorized User decision (limiting COMSAT to a carrier's carrier role) is suggested by Gabel as a means for eliciting more competition in the AVD (private lease) market. "While the market structure of the international communications industry is ostensibly oligopolistic, effective competition is minimal."[64] Gabel points out that on one hand COMSAT is assured a market through satellite and cable "balanced use" policies, and on the other hand is prohibited from directly serving the market through the Authorized User Decision.[65]

Gabel suggests that, "At minimum a rule-making procedure would have to be undertaken by FCC on the issue of mandatory interconnection and recision of the Authorized User doctrine."[66] Gabel further suggests that should findings affirm these actions, a two-year interval for review and monitoring of results would be established and that this would not substantially increase the regulatory workload as the FCC would be monitoring the IRC activities in any event.[67]

Gabel suggests that a greater degree of competitiveness would bring about a number of benefits. He envisions the entry of COMSAT and the re-entry of AT&T into the AVD market as bringing a higher degree of incentive pricing to this market.[68] Further, "Under conditions of mandatory interconnection (and signal compatibility) customers would tend to revert to single terminal machines. Depending upon market pressure and state of earnings, the record carriers might enter into negotiations for utilizing each other's spare switching capacities."[69] The study suggests that technological competition would be accelerated by the entry of COMSAT into competition for the AVD market and that this would spur innovation. On the other hand, it has been suggested that the AVD market is not especially large nor is it likely to grow exorbitantly.[70] Gabel also suggests that as there are service tradeoffs, such as innovative pricing in the public message area (telex and telegraph) increased competition in the private lease markets might result.[71]

3. Duopoly Service Alternative

Gabel examines the various possibilities for a duopoly and concludes that the most feasible duopoly situation would be to establish two separated transmission companies: COMSAT for satellite, and a company representing the divested overseas operations of AT&T Long Lines. Distribution facilities will continue to be maintained by the IRC's and the Bell System. Such an arrangement would require legislative change.

Gabel observes that with the IRC's out of the transmission facility business, there might be head-on rate competition between the two transmission suppliers.[72] The study qualifies this by also noting that "they could settle into amicable market division arrangements occasionally stroked into legal frenzy as new construction authorizations are submitted by the competition."[73]

Gabel suggests that "To the extent that pricing of overseas plant reflected real costs, more rational economic decisions could evolve. Some, possibly significant, cost savings could develop among the IRC's through universal interconnection."[74] More specifically, universal interconnection among the IRC's plus universal code compatibility are viewed as likely to "provide material savings in customer terminal equipment."[75] These benefits would also apply to the other alternatives which Gabel discusses.

The impact of a duopoly situation on the regulator would be relatively diverse; "if we assume that the transmission suppliers engage in hard competitive pricing, there would be no assurance that the bulk of any cost reductions would be passed on to the public."[76] Cole indicates that creation of a divested cable entity would not resolve many of the old problems and could create a variety of new ones.[77] Gabel summarizes the situation by stating "The carriers cannot be scored for operating in their own corporate interests. The missing link has been effective federal regulation.... The duopoly market arrangement could easily devolve into a replica of the current situation unless accompanied by aggressive regulatory action."[78] Gabel further points out that "If the Commission continues to assume the role of cartel manager... relatively little would have been accomplished."[79]

Gabel suggests that the carriers would resist this alternative strenuously. In the case of AT&T, divestiture of submarine cable operations would be an additional blow, on top of the antitrust suit already filed by the Justice Department.[80] With regard to buying out the IRC's submarine cable facilities, Gabel states "It is difficult to envisage how these resources (reimbursement from new cable entity) could be employed profitably within the surviving segments of the record carriers operations."[81] In the case of COMSAT, Gabel observes that it might emerge relatively unscathed at the initial stages of duopoly but "if the Commission were to alter the 'proportionate use' doctrine and the landline (terrestrial) carriers chose to exercise a 'least cost' choice in favor of cable technology, COMSAT would be compelled to adopt more progressive pricing policies."[82]

The foreign correspondents, Gabel suggests, could be unhappy with this alternative for several reasons. The new cable carrier would have to assume the liaison relationships now separately maintained by AT&T and the IRC's. On the other hand, "it is doubtful if the latter (AT&T and IRC's) can be readily ousted from their previous negotiating role."[83] In this regard, Cole suggests that the new cable carrier, not having the power and prestige of an operating carrier, could be subject to exploitation by foreign administrations.[84] He also notes that, in light of this, should the new cable company be the negotiator, "the regulator can monitor the negotiating process but not participate in it, (therefore) the probability of eliciting satisfactory results would be minimal."[85]

As far as innovation is concerned, while Gabel suggests that duopoly could serve to enhance service innovation, "this would be dependent upon regulatory activity or inactivity."[86] The key to enhancing innovation observed in this study is to make price the determinant of marketability of their (carriers) wares.[87][88]

D. Alternative International Telephone Industry Arrangements

The existing structure of AT&T and the bulk of U.S. domestic and international telephone service which it provides are extremely complex and deeply integrated. Whenever alternatives to this structure are considered, the identification and evaluation of resulting side effects become crucial. The alternatives reviewed here are related to international service and its relatively unique characteristics.

Among the areas which must be considered are not only the direct impacts upon cost, rates, regulator, other carriers, foreign relations, and the international bargaining process, but also upon the more subtle but no less substantive indirect impacts. These issues include: benefits derived from the economies of scale related to the domestic trunking and switching facilities which serve international traffic under the present structure, maintenance of U.S. leadership in submarine cable technology (and related trade benefits), and traditional cross-subsidies within the customer international rate structure [few remaining domestic zone charges and generally similar basic (weekday person) rates to most overseas countries].

1. Retain Status Quo Alternative

The Cole study on alternative international structural arrangements for AT&T first examines retaining the status quo. The study details the existing problems, which if allowed to continue can be expected to worsen in the future:

a. Inability to relate costs to rates

b. Divergent attitudes on the part of the U.S. and foreign administrations with regard to rate reduction

c. Poor foreign relations as a result of regulatory lag

d. Cable/satellite market allocation

e. Obsolescence of some regulatory techniques

f. Licensing problems (including lack of required methodologies for forecasting circuit demand, cost analysis, and determination of operating requirements)

Cole suggests that as a result of these problems, required investment in the future may be greater than need be (through inefficient selection of facilities). The regulatory workload will be increased because of the existing problems and the new ones which may arise. The recent problems in foreign relations could deteriorate, further weakening U.S. international negotiating ability. The U.S. may face future problems with INTELSAT as COMSAT

is phased out as manager.[89]

2. More Effective Regulation Alternative

Cole suggests that the problems could be resolved without changes in the industry structure or economic dislocations if more efficient regulation were developed. Toward this end the study outlines a number of regulatory steps needed.

a. Licensing Process

The FCC in-house capability should be expanded to analyze the traffic, cost, and service reliability of [illegible] (cable or satellite) 214 application. In this context, definitive set of policies and guidelines should be developed which would assist in evaluating applications within a 120-day time period. Also, a tentative 10-year plan should be prepared for U.S.-world communications and updated annually.

b. Cable/Satellite Issues

Cole sees the elimination of all cable/satellite formulas as a means of effecting better regulation, requiring that the choice of facilities be based upon cost and operational needs.

c. Foreign Relationships

Expand and maintain contacts with foreign administrations, through planning seminars. The FCC should also exercise influence in promoting moderately priced communications, equal settlement rates, and bilateral rate reductions.[90]

Cole suggests that as far as rates are concerned, "closer review of the (international) bargaining situation vis-a-vis foreign administrations would appear to offer more incentive toward reasonable rates than making the facility license for submarine cables a hostage."[91] Elimination of attempts to allocate or guarantee market segment (i.e., cable/satellite formulas) could further lower the cost of service through more efficient facility selection.[92] Black suggests that the "reasonable parity concept (cable/satellite market allocation) is in essence anti-competitive and, conceivably, detrimental to the public interest in the long run."[93] Grad notes that the problems which have arisen in this area urgently require

resolution and suggests specific changes in the Communications Satellite Act of 1962 to relieve the FCC of the obligation to advance satellite communications technology.[94]

Cole observes that the improvements defined previously would reduce the (regulatory) workload in these areas. "If a swift and far more specific licensing procedure were used, it would probably be possible to process them in 120 days."[95] The study envisions that savings would flow from a variety of sources including a more standardized and specific methodology as opposed to an ad hoc approach, a resolution of the cable/satellite share issue, a reduction in the number of challenges (through comprehensive planning process), and others. "Long-range planning needs to take into account both cable and satellite developments and needs, and only the government can require the collection and assembly of all relevant data--while planning by industry is likely to be based on the cable or satellite components without regard to communications needs as a whole."[96] Cole cautions that although improved regulatory procedures may help in some areas, it will not reduce the total regulatory workload as he envisions more complex issues and new problems on the horizon.[97]

Foreign relations would benefit as a result of improved regulatory procedures which reduce problem areas such as regulatory lag (i.e., delay in processing facility applications) and might lead to more effective bargaining on rates as a result of less confusion, clearer policy, and reduced tension.[98]

In the areas of technological improvements and innovation, the study suggests that improved regulation could lead to the introduction of new ideas and services sooner than under the existing system. An example given is the case of circuit expansion devices which "under the existing regulatory process... can be severely limited in application if one competitor objects."[99] There have also been complaints by some carriers that the regulator has unduely restrained multiplexing (number of data channels derived from a voice circuit) equipment.[100] Yet another source of objection could come from some foreign administrations concerned with manufacturing more submarine cables.

3. Establish Overseas Accounting Center Alternative

The study examines establishment of a separate overseas AT&T accounting center as an alternative for improving international telephony operations. This alternative would be complementary to the concept of improved regulation and would directly attack the fundamental problem of how to isolate the purely international costs from domestic costs within the Bell System. For example, the same switching stations and long haul facilities are used to connect international traffic as domestic traffic within the U.S. continent. Although this presents a difficult measurement problem, the deep integration of international service within the Bell System appears to have achieved at least some significant economies of scale not found elsewhere.[101]

No immediate impact upon rates is evident although this alternative would provide the cost/revenue basis for the regulator to determine whether international rates are just and reasonable. Once the accounting center is established, rates "may be affected due to the increased knowledge and ascertainment of cost tradeoffs... composite rates (based on satellite and cable utilization) and their desirability may come under closer scrutiny."[102]

Cole goes on to point out that other rates areas which the regulator could now explore would include:

"(1) the overall contribution of overseas service to AT&T of return.

"(2) determination of cross-subsidization, if any, between domestic and overseas service.

"(3) determination of whether cost of service is truly reflected in rates between different areas of the world."[103]

The study suggests that the accounting center approach would have ramifications for the Bell accounting system. It indicates, with regard to the issue of incremental versus fully allocated costing, that it is "essential for the regulator to examine costs in different ways. The accounting center approach would necessitate both historical costs attributable to the provision of overseas service on a fully distributed basis as a 'bench mark', as well as a modified incremental approach for forward-looking rate-making purposes."[104]

If situations exist where the cost of service not fully reflected in rates, such situations "should be examined, taken into account during rate negotiation, and flagged for their future implications."105/ Transcomm examined the subject of intra-area and intra-regional subsidies and concluded that the impact of instituting route by route telephone rates would be relatively nominal as "distance sensitive costs today constitute only 40% of total MTS costs and that this percentage is declining."106/

The impact of this alternative upon the regulator is viewed as significant. Although the "administrative effort by the regulator may be slightly increased... allocative gains ... would outweigh the losses.... That is,... the regulator would be in a better position to assess rates and services, freeing resources expended in the process (of obtaining the needed data) to other regulatory issues."107/

The impacts upon other carriers, foreign relations, and technological innovation are viewed as similar to those under the improved regulation alternative.

4. AT&T Subsidiary for Overseas Service Alternative

This alternative envisions the establishment of a wholly-owned AT&T subsidiary similar to Western Electric. Cole notes at the outset that one-half or more of the facility's cost for international telephony consists of domestic facility utilization, and that the establishment of a separate subsidiary, or even a separate divested company, would not by itself concentrate international facilities under a single roof (hence would not simplify regulation, improve efficiency, etc.). "The major problem associated with a subsidiary is the determination of where to separate the overseas operation from the domestic operation of AT&T."108/

The study advocates that in order for a separate subsidiary to effectively constitute the operations required for overseas service, the separation point should be at the International Or[illegible] Toll Center (IOTC). In other words, the total [illegible] call from the service area serving the U.S. cust[illegible] overseas point must be considered. This, as in [illegible] of the accounting center alternative, requires the ability to allocate the cost of jointly used (domestic and international) facilities.

In addition, the rate impact would be similar to that discussed in the accounting center alternative. However, there are other alternatives in which the basic rate structure could come into question.

The impact upon regulation would be essentially the same as under the accounting alternative although it is noted that the degree of efficiency gained would still be dependent upon successfully allocating the cost of jointly used facilities. Finally, the impacts upon other carriers, foreign relations, and technological innovation would be essentially the same as under the accounting center alternative.[109]

5. Separate Non-Bell Entity Overseas Service Alternative

This alternative would provide for a totally independent company disassociated from the Bell System. Two approaches for establishing such a company would be for a separate company to purchase the purely overseas facilities of AT&T, or AT&T would be required to spin off stock for a totally separated overseas company. The study notes that this company would include submarine cables, cable heads, earth stations and international operating centers, although the R&D, technology and cable manufacturing assets would be difficult to segregate. The separation point, as noted under the discussion of the subsidiary alternative, would have to be at the IOTC level in order to concentrate the greatest percentage of investment related to international service.[110] However, the study points out that the separate company would not be part of the Bell System and could not, therefore, share facilities.

Another possibility would be for the separate company to have a contractual relationship with Bell to provide gateway-hinterland service. However, Cole indicates that the new company would have significant incentives to maximize its rate base which would make such an approach unlikely. Furthermore, historical precedent (i.e., record service gateway-hinterland arrangements) does not appear to favor such an approach.[111] The likely result would be for the separate company to "construct its own buildings, purchase its own switches, and hire its own staff to perform the international functions now handled by the IOTC whereas a (Bell)

subsidiary could physically share facilities."[112] The separate company would thereby own all required international operating assets except the long distance trunks, which would have to be leased from Long Lines. An example of this type of facility ownership can be found in Canada (Canadian Bell (domestic) and Teleglobe (international)).[113] Financial and interface arrangements would have to be developed with the local operating companies.

> "This type of industry arrangement could lead to upward pressure on costs for the U.S. domestic leg (restoring zone charges, etc.) as well as on costs for the international leg (through weaker bargaining position of a purely international company). Existing evidence tends to indicate that this type of industry arrangement, possibly as a result of inefficiency and duplication of facilities, often results in higher rates."[114]

In the areas of investment and capitalization, the study suggests that both categories would rise significantly for the new company. The study notes that the company would have to purchase or otherwise obtain the overseas assets of AT&T and "raise a significant amount of additional investment funds for buildings, local/regional switches (outside local company switches) and other equipment...The new firm, at least in the beginning would probably have great incentive to maximize its rate base."[115]

As far as the impact upon regulation is concerned, the regulator would, presumably, benefit from having international telephony concentrated in one company in which it would be easier to monitor rate of return, etc. This would free resources to effect regulatory improvements in other areas (i.e., deeper examination of the international rate system, etc.). However, the study also points out that the regulator could find itself faced with a host of difficult new problems. An example would be whether or not the specialized carriers would be allowed to compete for supplying domestic trunking facilities and what impact this might have on network control. Another example would be determining what constitutes a reasonable charge for Long Lines trunks and what economies of scale, if any, should be reflected

in them.[116] The study also observes that in the case of the international bargaining process, the new company could be in a weak position and the regulator, who is not a participant in the process, would be powerless to help although still responsible for protecting the U.S. national and public interests.[117] Gabel raises yet another question with regard to this alternative which would disturb existing international working relationships. He states "It is doubtful that the latter (existing carriers) can be readily ousted from their previous bargaining role."[118]

The impact upon other carriers is also underlined by the study as it observes the new company would normally be expected to be interested in maximizing its rate base and would have very little incentive to use satellite transmission facilities. "Just as the regulator would have finally succeeded in giving more competitive incentive to the market (COMSAT rate reduction and possible abolition of cable/satellite ratio), (it) would possibly be establishing a new (company) with the (least) incentive to use satellite."[119] The IRC's, the study observes, would have the additional administrative burden of settling with two U.S. telephone companies instead of one.

In the area of foreign relations, the new company could have problems maintaining service which in turn would lead to adverse reactions. The study notes that the new company might be more subject to exploitation by foreign administrations than operating carriers due to its technical, economic, and operational characteristics.[120]

Grad notes that matters of tangible economic benefits rather than merely U.S. prestige and position are frequently at stake in our relations with foreign carriers.[121] In this regard, Cole observes that the new company would probably be cut off from Bell Labs and Western Electric and as a result, the U.S. could end up losing leadership of submarine cable technology. The study examines the possibility of some type of contractual relationship between the new company and Bell Labs (R&D) and Western Electric (submarine cable repeater manufacturing) but indicates that this would be difficult to establish.[122] An examination of the legal ramifications of the 1956 Consent Decree[123] and License Contract Fee[124] raises serious questions as to the feasibility of such an approach. As far as the general subject of submarine cable technology and manufacturing is concerned, Black

states that these activities fulfill the conditions of natural monopoly.[125] In other words, these activities cannot be efficiently split up and parcelled out among several firms.

Finally, "there is a distinct possibility that the quality and availability of services could decline (under this alternative)."[126]

6. AT&T Absorb COMSAT Facilities Alternative

This alternative would rescind the original Congressional decision to establish a separate company for providing international satellite service. It would require legislation (i.e., revision of Satellite Act of 1962) and would involve AT&T buying out the international operations of COMSAT. COMSAT would then be relegated to the provision of other international services such as Marisat & Aerosat, as well as domestic satellite services through COMSAT General. Conversely, AT&T would become a super carrier, controlling both transmission media (transmission monopoly) as well as maintaining its service monopoly in international telephony.

Cole suggests that the impact upon rates could be substantial since the monopoly carrier could supply more reasonable rates through more efficient investment/operating decisions, lower satellite rates, and stronger U.S. representation in international negotiations. However, there is an equal possibility that the monopoly carrier could do the opposite, it if chose, which would result in excessive rates.[127]

As noted previously, the potential for reduction in cost (i.e., through better planning and reduction of satellite rates) appears to exist. The study qualifies this by noting that the accomplishment of such benefits (including flow through savings to the consumer) would require cooperation of the foreign administrations. In this regard, a contract report[128] on foreign entities' policies and attitudes indicates that many foreign administrations view international rates from a standpoint of being able to use them to cross-subsidize domestic services. Gabel states, in this regard, that overseas countries with an interest in submarine cable manufacturing would probably resist an expanded role for satellite.[129] The existence of these attitudes and

desires, reflecting the national interests of many foreign administrations, is recognized as one of the pressures which would confront accomplishment of the potential cost benefits no matter which alternative is considered.

In the area of international regulation, Cole states "The existing regulatory system is becoming bogged down under the present industry structure. To add an even larger, more complex carrier would create even more problems."130/ He further observes that in order for the regulator to successfully monitor the operations of such a carrier, it would need tools which remain to be developed.

The lack of such tools, in conjunction with elimination of the "competitive pressure between AT&T and COMSAT as reflected in forcing a broader review of each other's proposals"131/ is viewed as making this an unfeasible alternative under the existing regulatory system. In a somewhat different vein, the study suggests that the regulator may face problems with INTELSAT in the future. It notes "to date, the regulator has not had major conflicts with INTELSAT at least to the extent that may develop in the future when U.S. influence is considerably diminished. The implications are great as far as cost of service and a variety of U.S. national interests are concerned."132/

This alternative would benefit other U.S. carriers. As a result of AT&T ownership of satellites, "IRC's could in the future have ownership or IRU(s) in both cable and satellite circuits whereas they now can only expense satellite circuit costs."133/ Under the existing situation the IRC's, like AT&T, have little economic incentive to use satellite circuits as they can only expense these costs, whereas cable circuits can be included in their rate base and accordingly can earn a rate of return. This alternative would offer the possibility of eliminating cable/satellite bias although effective regulation would be required to make sure that one technology was not advanced at the expense of the other. Transcomm, in a somewhat similar vein, noted that in order for capitalization of satellite lease to overcome cable/satellite bias, effective rate base regulation would be required and that lacking such regulation, "no effect whatsoever" could be expected.134/

The reaction in the area of foreign relations would probably be highly favorable. Cole notes that there would be less confusion and that AT&T has a better working relationship with foreign administrations. He cautions, that "There would be a need for constant and effective regulatory review, however, to make sure that there was no collusion or undesirable tradeoffs with the foreign correspondents."[135]

In the area of technological development, greater exploitation of technology would be possible under this alternative. Cole states that, "a single company, with no parochial interests vis-a-vis cable or satellite should be able to plan more efficiently, to time the introduction of new facilities more effectively, and to deploy such techniques as SPADE and TASI-C wherever the need exists. On the other hand, he notes that a monopoly situation of this type could make possible less than efficient investment choices and hold back circuit expansion technology in the event that regulation proved to be inadequate.[136]

E. Structural Arrangements For COMSAT

From the time of its inception, COMSAT has been a controversial entity. When enacting the Communications Satellite Act of 1962, the Congress opted for a hybrid independent private enterprise satellite company characterized by considerable U.S. Government oversight, with the hopes of rapidly promoting the benefits of satellite technology for the world. This decision constituted a "middle course" between giving the satellite technology to the carriers or to a public entity, advocated by some sources, in view of Government's investment in space technology.[137]

While COMSAT, through its leadership in INTELSAT, has succeeded in achieving many of the original goals of the 1962 Satellite Act (i.e., established a global satellite system) the existing market structure and other restrictions placed upon it by the FCC have limited its ability to compete. The Satellite Act of 1962 allows COMSAT "to contract with authorized users, including the United States Government, for the services of the communications satellite system."[138] According to Section 103(7), an authorized carrier means a communications common carrier which has been authorized by the FCC under the Act of 1934 to provide services by means of communications satellites.[139]

In the 1966 Authorized User case, the FCC defined COMSAT's role as that of a carrier's carrier. The FCC noted that although "COMSAT is authorized in Section 305 to furnish channels of communication...to other authorized entities...(and) to contract with authorized users including the United States Government..., these provisions must therefore be read in terms of the objectives and purpose of the Act."140/ It further concluded that "unrestricted direct dealings with the Government... would seriously weaken competitive forces."141/ Also, it stated "the foregoing considerations are thus consistent with the general concept pervading the Satellite Act of COMSAT as a monopoly... and as primarily a carrier's carrier."142/ The Commission stated that "the danger of loss by the terrestrial carriers of existing or additional leased circuit business to satellite facilities is not merely theoretical... the terrestrial carriers could reasonably be expected to lose a substantial share of their leased circuit revenues to COMSAT... it could very well be necessary to permit these carriers to increase rates charged to other users in order to enable them to earn a fair rate of return."143/ Finally, the Commission stated "Satellite circuits now becoming available should enable the carriers to secure facilities at lower costs in relation to terrestrial facilities and thereby permit them to reduce rates to reflect such cost reductions. We therefore expect the common carriers... to review their current rate schedules and file revisions which fully reflect the economies...."144/

In short, this ruling defined COMSAT as a carrier's carrier, denied COMSAT the right to sell directly to the Government (except in unique and exceptional circumstances), and laid the groundwork for composite rates (reflecting the combined cost of cable and satellite). In the 1967 Thirty Circuits case, the Commission denied COMSAT the right to sell to the Department of Defense and ordered the carriers to file composite rates.145/

In the international market, COMSAT has what essentially constitutes guaranteed share of the market (via FCC proportionate fill requirements) with little incentive to competitively reduce rates. Accompanying this guaranteed market share is the international carriers lack of incentive to use satellite circuits (lease arrangements rather than investment) and the feeling that they must pay higher than necessary rates (vis-a-vis cable) for COMSAT's satellite circuits.

To move away from "guaranteed satellite" usage, OTP and others have suggested that the carriers be allowed to capitalize lease costs.146/147/ To lessen the problems of higher than necessary rates, the FCC has ordered COMSAT to effect a 37.3% rate reduction for its circuits.

This study does not discuss the role of COMSAT's subsidiary COMSAT GENERAL. COMSAT GENERAL was organized in 1973 to carry out certain corporate programs not a part of INTELSAT, such as COMSTAR (domestic satellites) and MARISAT (provision of maritime service.)

The Transcomm study presents several potential structural alternatives for COMSAT and concludes:

> "First,...there appears to be no one alternative transmission structure for COMSAT that clearly provides extensive or unequivocal benefits to all categories of the public interest. Nor is there any one alternative that will not lead to substantial industry restructuring, either initially or eventually... should changes be desired for the transmission or earth station alternatives, these may 'readily' be effected through administrative action of the FCC. It is the decisions, orders and interpretations of this agency...that predominate in structuring the industry."148/

1. Allow COMSAT to Lease Private Line Services Directly to Consumers Alternative

This alternative would, in effect, abolish the Authorized User decision and allow COMSAT to sell private lease circuits directly to the user. Transcomm suggests that "the overall effect should be beneficial to the consumer (private lease user)."149/ This study assumes that a high degree of competition would result and that "it is not possible to predict the level at which rates will stabilize."150/ Also, Gabel suggests that this would lead to "incentive pricing...promote the market, and application of market prices would, in turn, improve investment decisions and resource allocation."151/

While allowing COMSAT into this market would undoubtedly result in lower rates for the private lease users, the Cole study notes that "responsible regulation cannot be identified as providing the lowest cost service to a small sector of the market regardless of the consequences upon the remaining rate payers."152/ The study goes on to note that intense competition in the IRC private lease market could have a significant impact upon public message service (telex) rates.153/

With regard to the regulatory workload, Transcomm observes that "regulatory effort will be required to prevent competition from taking the form of selective pricing and cross-subsidization (presumably by COMSAT)." 154/ As no clear-cut methodology exists for determining whether or not a competitive price offered by a monopoly (i.e., satellite service firm) reflects cross-subsidy, the regulator would gain a new and complex problem to struggle with. WUI, in its Petition To Stay (Docket No. 20097), referenced its fear of predatory pricing should COMSAT be allowed in the AVD market. 155/

As far as the significance of this alternative is concerned, Transcomm estimates that private lease provides only about 24% (1972)...of IRC's operating revenues. 156/ The 1975 private lease revenues from the IRC's as shown earlier in table II-2 were $69.2M or 25.2% of total revenues.

2. Joint Ownership of Satellites (COMSAT, AT&T, and IRC's) Alternative

This alternative would consist of allowing the authorized carriers (AT&T and IRC's) to buy 49% of (U.S.) satellite ownership, with 51% remaining in COMSAT in order for it to remain as the representative U.S. entity to INTELSAT. 157/ Transcomm states:

> "The rationale underlying other carrier investment in satellites is two-fold. The first concerns addressing the current major problem of satellite lease expenses being reimbursed at cost through revenue requirements as opposed to allowing the carriers an investment interest upon which they may earn a rate of return. The second aspect concerns an attempt to provide more efficient investment decisions related to satellite-cable alternatives. Should such efficiencies be achieved it could have the simultaneous effects of lowering both cost of service and rates in some regions as well as decreasing the FCC administrative decisions required for cable and satellite authorizations." 158/

In the area of cost, the Transcomm study suggests that 49% ownership of the satellite system by the authorized carriers would bring about savings in satellite lease costs (i.e., assuming that circuits reflecting the percentage ownership now belong to the authorized carriers). However, it notes that

> "First of all is the fact that not all of the carrier lease expense reduction can be directly translated into rate reductions by the carriers. Assuming cost of service pricing by the carriers, the lease expense saving would be offset at least by the rate of return applied to the $50.7M now in their rate base. At 9% rate of return this would add $4.56M to the carrier revenue requirements. There may also be other expenses for the carriers related to maintenance, administration and the like associated with the 'owned' satellite circuits. For example, if the carriers assume their 49% share of COMSAT's 1974 Operations, Maintenance, Depreciation, Amortization and Income Taxes, they would incur additional annual expenses of $7.6M. These expenses plus the return total about $50M. When compared to their annual lease cost savings of $60.3M, the potential savings to the ratepayers is reduced to only about $10M per year."159/

Another consideration is the impact upon COMSAT. Transcomm observes that with half of its rate base refunded, "all COMSAT's operating revenue is now from leasing circuits to the carriers. Thus, providing them (carriers) only 49% ownership requires them to lease the overage from COMSAT. Without such a relationship continuing, there would be no operating revenue to COMSAT at all."160/

The impact of this alternative upon regulation would appear to be negative. Transcomm states, "This situation would not be practical since, without requiring the carriers to maintain some balance between cable and satellite circuits, the carrier incentives would remain as they are currently...these factors would seem to outweigh any benefits."161/ In addition to not resolving the existing problems for the regulator, this alternative could create new ones. For example, Transcomm suggests, "Satellite circuit leases would, with free choice, be relegated to serving the thin routes where cable investment was not financially desirable."162/ The Europeans, it should be recognized, have already suggested this approach in their 1974 Spoleto Report.163/ Another example is that this alternative could exacerbate the problems which the regulator has already experienced in the areas of planning and licensing of facilities. Transcomm notes that there would be a "potential conflict in investment decisions for the carriers when participating in satellite ownership. The cable manufacturing interests of AT&T and ITT could effectively bias or hinder any joint COMSAT-carrier decision-making concerning an optimal mix or choice of satellite-cables over specific routes or regions."164/ Transcomm observes that "with COMSAT still acting as U.S. agent to INTELSAT, a consolidated U.S. position might be difficult in major issues."165/ In addition, "this alternative provides no competitive basis for rate reductions...any potential for rate reductions that may exist will undoubtedly be effected only through continued regulatory action."166/

The likely reaction of foreign administrations to this alternative is expected to be negative. Transcomm states "foreign entities, already concerned about dealing with numerous U.S. communications organizations may view such a joint ownership arrangement as merely aggravating the situation. If foreign entities are also concerned with protecting cable investment and do in fact find such investment more profitable than satellites, they will also not view any potential restriction on cable expansion favorably. Yet at the same time, any action that might restrict U.S. cable development while foreign cable expansion could be pursued more readily could be expected to be well received by specific foreign countries."167/168/

The impact of this alternative upon technological development is generally noted to be adverse. Transcomm suggests that U.S. cable development R&D "could be expected to decline over time... there would be continued uncertainty over the potential for expanded U.S. installation... and the continued need for FCC decisions in this area." 169/ It also suggests that "the joint ownership arrangements with the carriers' cable manufacturing interests could effectively preclude effective COMSAT programs. The net effect of this alternative could well be a decline in both satellite and cable R&D to the detriment of U.S. preeminence and revenue." 170/

3. COMSAT Absorbs AT&T International Facilities Alternative

This alternative would establish COMSAT as a "super carrier's carrier." As envisioned by Transcomm,

> "This approach involves the absorption of AT&T international long line facilities by COMSAT with IRC's retaining their investment in cables. Thus COMSAT would manage not only the satellite system, but the cable system as well, by virtue of its having assumed all of AT&T functions in international communications. The Authorized User Decision would remain in force protecting the IRC's from direct competition with COMSAT. COMSAT, then, would remain a carrier's carrier, with the IRC's and AT&T leasing circuits from it. The purpose of partial consolidation of transmission modes is to devise a system in which relatively more efficient investment decisions can be made between modes but which is still characterized by competition among record carriers." 171/

Transcomm views the likely cost/rate impact of this alternative as relatively uncertain. The study states

"An initial evaluation would be that COMSAT's function as manager of both satellite and cable service will place COMSAT in a position to make efficient investment decisions concerning the introduction of new cables and satellites. However, its predisposition toward its satellite ownership versus cable facilities acquired from AT&T could lead to the development of an unbalanced system.

"Thus, COMSAT's influence in initial investment decisions could severely restrict the growth of the cable industry. Any trend toward development of satellites to the exclusion of cables would decrease the reliability (i.e., redundancy and diversity) of the communications system since adequate backup facilities would not be available in case of service outages." 172/

A more theoretical analysis of the impact of such an alternative was the Black study which noted "So far as technical and economic considerations are involved, the argument for a single entity combining satellites and cables does not seem to be so strong as that for single management of cables and single management of satellites." 173/

In the area of regulatory impact, Transcomm suggests "Regulators would need to exert effort to insure that the most efficient mode of transmission is authorized in a particular region. Effort would be directed toward maintaining a balanced system which would provide reliable service to consumers." 174/ However, the establishment of a cable/satellite transmission monopolist would appear to present distinct hazards for both the carriers and the regulator. Gabel suggests that in the case of the authorized carriers, "there would be no alternative to the transmission supplier, merely different technologies at probably uniform prices." 175/

Finally, the reaction of the overseas entities to this alternative is generally viewed as adverse. Transcomm suggests, "Foreign governments whose investments in cables are substantial would oppose any trend in this country towards emphasizing satellites. They could react by raising their prices to foreign consumers to recoup losses resulting from the potential restriction in growth of the American cable industry or by attempting to slow the development of the satellite system through their influence in the INTELSAT organization. However, COMSAT's views in the INTELSAT organization will reflect the needs of the cable system giving a more balanced representation of the needs of the entire American systems."176/

4. COMSAT with a Revision in Earth Station Ownership Arrangements

The issue of earth station ownership is viewed by Transcomm as "separate but related to industry alternatives." 177/ In this regard, three options were considered: joint ownership, the current situation, and complete ownership by COMSAT or the IRC's and AT&T.

The study found that "when compared to the potential cost and benefit impact of the transmission alternatives and the revenue contribution from earth stations, earth station ownership arrangements become of lesser importance. Absent such transmission changes, complete ownership by COMSAT of U.S. earth stations should lower its rates to the carriers and, with flow through, lower rates to the public. COMSAT ownership would also eliminate the anomaly of cable owners' partial investment in a competing technology for which no incentive exists to use the transmission media." 178/

END NOTES - Chapter V

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16. Jack E. Cole and others, "Accounting and Settlement Arrangements for International Message Telephone and Telex Services, U.S. - Foreign Routes," Office of Telecommunications, U.S. Department of Commerce, 1976, p. 50.

17. Transcomm, "COMSAT", p. 77.

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19. Jack E. Cole and others, "Analysis of AT&T's Overseas Services Including Cost of Providing Such Services Its Regulation and Evaluation of Possible Alternatives," Office of Telecommunications, U.S. Department of Commerce, p. V-43.

20. Ibid., pp. V-43 and V-44.

21. Gabel, p. 108.

22. Transcomm, "COMSAT", p. 74.

23. Gabel, p. 109.

24. Transcomm, "COMSAT", p. 76.

25. Gabel, pp. 107-108.

26. Cole, "AT&T", p. V-43.

27. Transcomm, "COMSAT", p. 76.

28. Cole, "AT&T", p. 11-42.

29. Gabel, p. 11.

30. Ibid., p. 107

31. Ibid.

32. FCC, Statement of Policy and Guidelines, Licensing of Overseas Communications Facilities, Docket 18875, FCC 71-659, 1971, p. 2.

33. Transcomm, "COMSAT", p. 77.

34. Gabel, p. 111.

35. Transcomm, "COMSAT", p. 82.

36. The converse of this situation would presumably be cable being developed to the exclusion of satellite, thereby endangering service to light traffic routes primarily served by satellite.

37. Transcomm, "COMSAT", p. 76.

38. Cole, "AT&T", p. V-35.

39. J. E. Keith, "Testimony Before Kansas State Corp., Commission (Docket 107, 300-U)," K.S.C.C., 1976, pp. 2 thru 5.

40. Transcomm, "COMSAT", p. 77.

41. Cole, "AT&T", p. V-47.

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50. Ibid., p. 80.

51. Ibid., p. 81.

52. Ibid., pp. 81-82.

53. Ende Seminar.

54. Cole, "Resale & Shared Use," pp. 4-1, 4-7.

55. Gabel, p. 78.

56. Ibid., p. 82.

57. Cole, "Resale & Shared Use," pp. 6-3 thru 6-11, 6-14.

58. Gabel, p. 98.

59. Ibid.

60. Ibid.

61. Ibid., p. 99.

62. FCC, Initial Decision, Western Union Telegraph Co., 25 FCC 535, 1958, p. 583.

63. Gabel, p. 100.

64. Ibid., p. 83.

65. Ibid., p. 84.

66. Ibid., p. 102.

67. Ibid.

68. Ibid.

69. Ibid.

70. Cole, "Resale & Shared Use," p. 6-1.

71. Gabel, p. 104

72. Ibid., p. 90.

73. Ibid.

74. Ibid., p. 91

75. Ibid., p. 92.

76. Ibid., p. 90.

77. Cole, "AT&T", pp. V-26 thru V-37.

78. Gabel, p. 93.

79. Ibid.

80. Ibid., p. 94.

81. Ibid.

82. Ibid., pp. 94-95.

83. Ibid.

84. Cole, "AT&T", p. V-33.

85. Ibid., p. V-34.

86. Gabel, p. 96.

87. Ibid.

88. One alternative not discussed here, would entail a single-record entity at the retail level, i.e., monopoly. Although studied by SRI, there is almost universal agreement that a competitive market structure must be maintained where feasible.

89. Cole, "AT&T", pp. V-1 thru V-4.

90. Ibid., pp. V-5 thru V-7.

91. Ibid., p. V-8.

92. Ibid,. p. V-9.

93. Black, p. 16.

94. Grad and Goldfarb, p. 152.

95. Cole, "AT&T", p. V-11.

96. Grad and Goldfarb, p. 160.

97. Ibid.

Cole, "AT&T", p. V-29.

Ibid., p. V-17.

Ibid., p. V-18, V-19.

Ibid., p. V-18.

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Transcomm, Regulation, p. 154.

Cole, "AT&T", p. V-19.

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Ibid., p. V-24.

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Grad and Goldman, p. 152

122. Cole, "AT&T", p. V-35.

123. Department of Justice, Final Judgment, Civil Action 17-49 (Western Electric Consent Decree), 1956.

124. Keith Testimony, pp. 2, 3, 5.

125. Black, p. 35.

126. Cole, "AT&T", p. V-36.

127. Ibid., p. V-40.

128. Underseas Cable Engineers, Inc., "Foreign International Telecommunications Entity Report."

129. Gabel, pp., 84, 85.

130. Cole, "AT&T", pp. V-42, V-43.

131. Ibid., p. V-43.

132. Ibid., p. V-44.

133. Ibid., p. V-45.

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135. Cole, "AT&T", p. V-47.

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137. Rostow, "Task Force Report," Chapter 2, p. 4.

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139. Ibid., Section 703 (7)

140. FCC Memorandum Opinion and Statement of Policy, Authorized Entities and Authorized Users, Docket 16058, 1966, p. 12.

141. Ibid.

142 Ibid.

143. Ibid., p. 17.

144. Ibid., p. 20.

145. FCC, Memorandum, Opinion, Order, and Certificate, ITT, WUI, RCA to Lease Satellite Circuits from COMSAT to Provide AVD Service for DCA, FCC 67-163, 1967, pp. 3, 4.

146. OTP, "Recommendations On International Facilities Planning," 1975.

147. WUI Inc., Alternative Proposals by Western Union International Inc. To Defuse Cable Versus Satellite Controversy, Inquiry on Licensing Procedures, Docket 18875, 1976, p. 2.

148. Transcomm, "COMSAT" pp. 34-35.

149. Ibid., p. 63.

150. Ibid.

151. Gabel, p. 101.

152. Cole, "Resale & Shared Use," p. 7-7.

153. Ibid., pp. 6-3 thru 6-9.

154. Transcomm, "COMSAT", p. 63.

155. WUI, Petition to Stay, Resale and Shared Use of Facilities, Docket 20097, 1976, p. 16.

156. Transcomm, "COMSAT", p. 63.

157. Ibid., p. 67

158. Ibid.

159. Ibid., p. 68

160. Ibid., p. 69

161. Ibid.

162. Ibid.

163. Europe-North America Telecommunication Services Principles and Policy for Development 1980-1990 - The European View, Spoleto, Italy, May 3, 1974, Section 5, p. 20.

164. Transcomm, "COMSAT", p. 69.

165. Ibid.

166. Ibid., pp. 70-71.

167. Ibid., pp. 69-70.

168. Gabel, p. 85.

169. Transcomm, "COMSAT", p. 70.

170. Ibid.

171. Ibid., p. 81.

172. Ibid., p. 82.

173. Black, pp. 212, 213.

174. Transcomm, "COMSAT", p. 82.

175. Gabel, p. 109.

176. Transcomm, "COMSAT", p. 83.

177. Ibid., p. 87.

178. Ibid., p. 34.

CHAPTER VI

REGULATORY AND GOVERNMENTAL ALTERNATIVES

A. Introduction

While the major emphasis of this report is placed on alternative structural arrangements for the industry, there are certain regulatory and governmental changes which could have significant impact on international telecommunications. This chapter specifically summarizes the work of Transcomm, Inc. on alternative regulatory procedures and the study conducted by Frank P. Grad and Daniel C. Goldfarb on the governmental relationships involved in the oversight of the industry. Much of the discussion centers on the need to resolve the current problem areas presented in Chapter IV, and offers additional regulatory reform alternatives to those presented in Chapter V.

B. Alternative Regulatory Procedures

Transcomm, Inc. analyzes eight alternatives to the current regulatory procedures employed by the FCC. In structuring the alternatives as responses to the perceived problem areas within the industry, the list includes:

"(1) Increased regulatory planning and guidelines

(2) Elimination of current circuit activation requirements

(3) Disaggregation of rate and cost relationships

  (a) Elimination of composite rates
  (b) Development of route-by-route rates

(4) Capitalization of carriers' lease payments to COMSAT

(5) Exclusion of submarine cable investment from the carriers' rate base

(6) Authorize COMSAT entry into the private line AVD market

y into private line/AVD markets (see Transcomm COMSAT ly), is presented separately below.

1. Increased Regulatory Planning and Guidelines

Under this alternative Transcomm envisions the ission as moving away from the ad hoc case-by-case lity authorization that currently exists. Instead, implementation of this alternative would involve the ulation of specific guidelines, which would go beyond general guidelines in FCC Docket 18875, and presumably ease the Commission's involvement in the carriers' lity investment decision-making process.

It is Transcomm's position that "the potential fits of such an alternative are tenuous at best and st certainly less than the associated costs."[2] First, ent planning guidelines, whether 50/50 or reasonable ty, have been condemned as artificial and restrictive ost parties, lending substantial doubt as to the ptability of specific guidelines. Second, any final sion by the Commission on optimal facility investment ecessarily subjective; and finally, the imposition pecific planning guidelines increases the possibility ommission-imposed market divisions by technology.

Clearly, Transcomm fears the "imposition of ly specific guidelines that necessarily involve ission usurpation of common carrier management duties. nt a specific a priori basis to suspect that the ission can perform these duties with results more rable than those that exist from common carrier ormance... it seems these prerogatives ought to remain the carriers."[3]

2. The Elimination of Current Circuit Activation Requirements

Section 214 of the Communications Act of 1934 requires FCC approval for both the construction and operation of new facilities. A two-stage approval process has been utilized by the FCC. Transcomm states,

> "The perceived purpose of the Commission in requiring separate authorization procedures for overseas service is to provide it with an opportunity to monitor relative cable/satellite facility utilization..... However, since the separate circuit activation applications seem to duplicate, to some extent, issues addressed during the facility construction procedures, it would seem that the former is one step in the process that could be eliminated in an effort to reduce delay in the provision of service."4/

Analysis of this alternative by Transcomm results in the following conclusions:

a. Implementation would eliminate one tool by which the FCC attempts to achieve and maintain its definition of a "balanced" system.

b. For the above reason, and because unconstrained facility utilization would result in a different usage mix from FCC desires, the alternative would be unacceptable to the FCC.

c. More expeditious provision of service would result.

d. The possibility of holding circuit activation requests as a tool to require rate reductions would be lost.

3. Disaggregation of Rate and Cost Relationships

a. Elimination of composite rates

Compositing refers to the manner in which the transmission costs attributable specifically to satellite and cable are combined in order to determine a composite rate. "The alternative to the compositing procedure is the

establishment of tariffs for the individual services based upon the costs associated with transmission for that service."[5]

Transcomm states that this alternative to compositing has no real meaning for switched services; the major effect would be on leased-channel services.

> "The alternative implies the creation of a two-tier pricing structure for leased channel service and competitive pressures which will create some cost and quality based differential between rates for the separate technologies.... It is uncertain whether or not substantial record carrier transmission facility utilization changes will occur. Such substantial changes could impact negatively on the record carriers' financial positions."[6]

b. Route-by-Route Rates

This Transcomm alternative involves the establishment of overseas telecommunications rates on a route-by-route basis as opposed to the current region/area/distance combination which appears to be utilized for most services to most destinations. While it could be argued that the implementation of such an alternative would have few recognizable effects, in general, a shifting to a route-by-route structure would eliminate any intra-area or intra-regional subsidies that currently exist. Transcomm further notes that the benefits of the alternative for each service depend upon the importance of distance-sensitive transmission costs for the particular service. Presumably, leased channel service rates have the best prospect of being affected by such a change, with nominal impacts on telex and message telephone service rates.

4. Capitalization of Carriers' Lease Payments to COMSAT

While significant discussion has already been generated on this issue, Transcomm's examination of capitalizing lease payments to COMSAT is offered as another regulatory alternative. Its purpose is to eliminate or ameliorate the perceived undesirable

consequences of the asymmetrical choice that supposedly confronts the carriers.

> "In a general sense, the amount by which such lease expenditure capitalization increases satellite use depends upon the mechanics of the regulatory process, the values of certain unspecified parameters, and the format of such lease expenditure capitalization.... It does appear that the carrier purchase from COMSAT of satellite Indefeasible Rights of Use (IRU's) potentially can 'neutralize' the cable circuit/satellite circuit choice."7/

Transcomm however, also makes it clear that lease capitalization will have no effect whatsoever when rate base regulation is not active and is not expected to become active. "There would be no effect because the artificial rate base expansion tendencies have no meaning when the rate base itself is not used to determine total firm profits."8/ Moreover, Transcomm asserts that "there can be no certainty that the design of a methodology for rate base regulation that involves some form of lease expense capitalization will improve in any way the efficiency of the satellite-cable investment decision."9/

5. Exclusion of Submarine Cable Investment From the Carriers' Rate Base

A complementary approach to the cable/satellite usage incentive problem involves the elimination of the carriers' cable investment from their rate base. Involved is the "elimination of carrier IRU purchases", which will be substituted by ordinary lease payments to the cable owners, as is currently the case for satellite circuits. "Thus, according to theory, the carrier, in selecting between cable and satellite circuit usage, will be guided by price and quality considerations, including diversity goals, and not presumably artificial rate base considerations."10/

Because of AT&T's position as the major U.S. manufacturer of cables, it is assumed by Transcomm that AT&T would still be an active participant in cable development, construction, and ownership. "The elimination of cable investment from the carriers' rate base would seem necessarily to dictate that AT&T participate in (1) cable ownership, and (2) the provision of overseas telecommunications service directly to customers through

separate organizational entities."[11] Transcomm notes that regulation of the latter function will involve the deletion of cable investment from the operational carriers' rate base. At the same time, however, Transcomm observes that "the creation of separate organizational entities would appear to lessen rather than to eliminate the problems that they were designed to serve.

> "The separate organizational entities created are still part of the same overall organization and it would be surprising if certain predictable corporate goals were not able to permeate the new structure. Thus, AT&T as developer, manufacturer, and owner of submarine cable systems still has an incentive to expand the cable systems' use and the creation of a new subsidiary seems unlikely to alter such an incentive."[12]

Moreover, the retention of any circuit usage tools by the Commission would be counterproductive to the implementation of this alternative. "If the Commission is to set and maintain... usage ratios, there is no reason to adopt a bookkeeping practice (such as this alternative) that changes in any way the usage ratios considered optimal from the viewpoint of the carriers."[13]

Finally, the IRC's financial positions may be negatively affected by this alternative, as their respective rate bases would be reduced. The IRC's should be positively motivated to select transmission circuits on an efficient basis, introducing themselves as competitive buyers in the transmission marketplace.

6. Authorize AT&T Entry Into the Private Line Alternate Voice Data Market

As evidenced in the TAT-4 decision of 1964, there has always been concern over allowing AT&T into the AVD market, namely, the financial viability of the IRC's. "Specifically, it is feared that AT&T will completely dominate the AVD market due to one or both of the following factors: (1) cross-subsidization of this service with revenues from message telephone service, and (2) the realization of a distinct cost advantage resulting from certain scale economies."[14]

In examining this alternative, which would lift the FCC restrictions on AT&T from serving the AVD market, Transcomm notes it is not likely that AT&T would eliminate the IRC's from the market. "It is unlikely that AT&T would fully take advantage of any presumed opportunity to eliminate the IRC's from this market. Such behavior would stimulate intensive regulatory examination and possibly judicial investigation as well. Rather, it is suggested that the market would be shared by AT&T and the IRC's."[15]

The resultant competition would exert downward pressures on rates as one plausible advantage, but the spectre of cross-subsidization on the part of all the carriers is a serious potential disadvantage.

7. Deregulation of Leased Channel Service

The implementation of the final alternative would free the IRC's from FCC regulation with respect to the provision of leased channel service. The carriers would not be required to file tariff rates, and there would be no requirement that tariffs be justified with detailed cost support data as provided for in Section 61.38 of the FCC rules. There are two possible scenarios for deregulated lease channel service: (1) without entry (IRC's only), (2) with market entry, (AT&T, COMSAT and others enter), and the alternative is examined under both conditions.

Transcomm contends that deregulation is a plausible alternative since regulation is considered desirable when natural monopoly conditions prevail in service supply. The presence of multiple IRC's suggests that monopoly characteristics are not significant for any of the services offered by these firms. However, implementation of this alternative may have little effect on the industry "in that the record carriers appear to behave now under regulation much as they would in a deregulated environment."[16]

In a different vein, this alternative would eliminate any benefits to the carrier from internal cross-subsidization since capital expansion in the competitive leased channel market would not affect the carriers rate base (provide for rate base expansion).

a. Without Market Entry

This scenario suggests only minor changes from the status quo. There would be only minor rate changes for leased channel service or other record services attributable to deregulation without new market entry. The major benefits involve decreased carrier filing requirements and decreased regulatory efforts.

b. With Market Entry

Market entry by AT&T, COMSAT and other firms such as certain of the specialized common carriers is allowed under this scenario. Transcomm sees an inherent, significant cost advantage to COMSAT in the provision of this service since "COMSAT's incremental costs for the activation of additional circuits approach zero."* As such, COMSAT should be required to furnish service through a subsidiary corporation on a tariff basis.

Transcomm observes that AT&T would not probably have any substantial cost economies over the IRC's, while the specialized carriers would probably be in a disadvantageous cost position due to additional fixed and start-up costs.

Transcomm's comments made earlier with respect to incentives to practice cross-subsidization apply with equal force to AT&T and COMSAT market entry, in which case "it will be incumbent upon the Commission to determine that assets and expenses associated with competitive services are not utilized in the determination of regulated rates."[17]

*It must be noted that activation of idle cable plant also by definition implies zero incremental costs. "Value-added" costs in furnishing complete circuits should be approximately equal for all carriers.

C. Governmental Alternatives

The report prepared by Frank P. Grad and Daniel C. Goldfarb of Columbia University examines recurring FCC policies that raise problems in the industry and with foreign relations. The study makes three recommendations: redefinition of legal authority in the cable/satellite area; clarification of the roles of DOS, OTP, and the FCC; and the definition of the governmental role and responsibilities in the long-range planning process.

1. Summary of Problems

The effect of recurring FCC policies is summarized as serving to maintain the relative strength of the companies in the industry (i.e., maintain status quo). This is observed as anticompetitive, anti-innovative, and raises troublesome questions for foreign relations. In this regard the report notes that it has been suggested (forcefully) that foreign administrations are seriously troubled by U.S. regulatory delays. The view expressed is that "it is difficult to understand why, after so many years of experience, this should remain such a major issue with foreign carriers--all the more so since these delays are generally the result of trying to work out parity and fill problems in line with policies that presently work out to favor cables over satellites."[18] The delays in cable circuit authorizations are viewed as having as adverse effects on AT&T and ITT that are at least as significant as the adverse effects on the foreign carriers. Grad suggests, in urging greater dispatch in solving the problem of delays, that the foreign carriers speak as much for their American counterparts as they do for themselves.

Undiminished foreign preference for cable technology is difficult to explain on a number of other grounds. Foreign relations problems in this area are not likely to be resolved until a less rigid, more competitive industry is developed.[19]

2. Recommendations

The Columbia study finds that a convincing case can be made showing the systemic nature of foreign policy and related administrative problems. That is, they are problems of the very nature of the industry and its basic laws and regulations. Consequently, the report states:

"it is very unlikely that tinkering with administrative arrangements, or with the allocations of functions among the several government agencies in the telecommunications field, will, by itself, produce solutions that are of major or lasting effect. To provide such solutions, substantive changes in the structure of the industry and in its laws and regulations are needed--and some so clearly beyond the scope of this brief study." 20/

Due to the difficulties and complexities of alternatives such as the single transmission entity proposed in the 1968 Presidential Task Force Report, or the concept of separation of ownership reviewed in a 1974 OTP proposal, the Columbia report deals with such major proposals as being "outside the range of alternatives to be considered in this study." 21/

Another difficulty in making recommendations for systemic changes arises from the fact that the depth of the problem is not fully agreed upon.

"The main obstacle to the freedom of U.S. and foreign carriers to enter into agreements of their choice, without limitations relating to cable or satellite allocation and to rate regulations, is the FCC. The FCC, however, does not impose these limitations out of a desire to create problems, but in pursuance of legislative mandates to protect the interest of the users and to prevent possible abuses by the huge and powerful telecommunications carriers. When the FCC's mandate under the Communications Act of 1934 to protect the consumer and its mandate under the Communications Satellite Act of 1962 to advance and protect satellite technology are considered in their entirety, it becomes apparent that the FCC has been reasonably effective in meeting its difficult obligations." 22/

Alternatives or recommendations developed in the study are modest in scope and are offered as a "balance in a very complex regulatory situation in which sometimes conflicting purposes must be served."[23]

Recommendation 1 - Redefinition of Legal Authority in Cable/Satellite Issues

Several steps are needed to reduce foreign relations problems stemming from the cable/satellite issue while still maintaining balance and guarding against abuse. They are:

a. The 1962 Communications Satellite Act would be amended to

"(1) recognize COMSAT as a common carrier rather than a quasi public entity

(2) relieve FCC of obligations to advance satellite communications technology

(3) eliminate references to the special foreign relations obligations COMSAT carries

(4) add a statement reaffirming FCC authority over COMSAT

(5) allow COMSAT to function as an international common carrier fully competitive with other such common carriers (subject to same laws)

(6) repeal Sections 721(a)(2) and (4) which require the President to provide for continuous review

(7) eliminate from Section 721 all FCC authority which is different in character and extent from FCC authority over other carriers

(8) eliminate, in Section 733, the President's power to appoint three COMSAT board members and eliminate any special provisions of Section 734 to delete any special rights of common carriers to purchase or hold COMSAT stock."[24]

b. By administrative determination, or by statutory amendment if necessary, free COMSAT from its carrier's carrier status, allowing it to participate in the market on the same competitive basis as other international carriers. The FCC could, as an alternative to a statutory amendment making COMSAT a full common carrier, reopen Docket 16058, the "Authorized User" decision, as the conditions which led to the carrier's carrier status no longer hold. 25/

c. Abolish the composite rate for cable and satellite by administrative regulation, or by statutory amendment if necessary, and permit competitive rates to the fullest extent possible. Only private-lease circuits would probably be involved and some degree of noncompetitive rate setting by the FCC would still be required to prevent cross-subsidization. Two options are indicated in this regard:

(1) Administrative approach would be accomplished by a review of the composite rate policy adopted as an adjunct to the Authorized User decision (was not a law but was a judgment which could be changed).

(2) Amend Communications Act of 1934 to provide for COMSAT and other carriers filing competitive rates and for the FCC to approve these unless such rates, for specified services, are clearly contrary to the public interest. 26/

d. Other policies that reduce intermodal competition should be revised by FCC regulatory action or by statutory amendment. These include:

(1) joint ownership of earth stations would no longer be required

(2) in the absence of such administrative determination, Communications Satellite Act of 1962 should be amended to provide express authorization to COMSAT to have sole ownership of earth stations or to allow others to share in them. 27/

Recommendation 2 - Foreign Relations

The second recommendation of the study is that several steps are needed for strengthening the foreign relations role of the U.S. by clarifying the roles of the State Department, OTP, and FCC. They are:

> "a. Without affecting the existing authority of the President with relation to particular, statutorily-delegated areas of telecommunications management, OTP should be given statutory existence and should be designated as the proper agency to coordinate the approval of proposed agreements with foreign carriers.
>
> "Such statutory existence for OTP could best be established by amending the Communications Act of 1934, inserting a new subchapter on international telecommunications, which would provide for the continuation of OTP and for its duties and functions in relation to international telecommunications. The enumeration of such duties and functions would effectively incorporate the provisions of Executive Order No. 11556 and should contain specific reference to the proposed coordinating function of OTP for the approval of agreements with foreign carriers, in accordance with further recommendations that follow.
>
> "b. All U.S. international carriers should be required by law to inform OTP of ongoing negotiations with foreign carriers, and OTP, in turn, should have the duty to inform and obtain the concurrence of the State Department and of FCC before a U.S. carrier is authorized to conclude an agreement with a foreign carrier. This requirement should apply to satellite as well as cable agreements.

"The statutory amendments--to be included in the proposed new subchapter of the Communications Act of 1934--would, in effect, make applicable and extend the provisions of §742 of the Communications Satellite Act of 1962, relating to negotiations with foreign carriers, to agreements relating to cables as well as satellites. The coordinating function for obtaining State Department and FCC concurrence would be assigned to OTP. The proposal has somewhat broader scope than the earlier provision in the Communications Satellite Act because it would require the early concurrence of FCC as well.

"c. The law should provide that the designated government agencies, in consenting to agreements with foreign carriers, be guided primarily by the need to meet capacity requirements for growth, taking into account the cost burden that unnecessary capacity imposes on the public.

"The recommended statutory amendment, to be incorporated in the new subchapter on international telecommunications, may be regarded as an amplification of §214 of the Communications Act of 1934, which provides that an extension of lines must be approved through the granting of a certificate of public convenience and necessity. The proposal, in effect, would articulate growth factors in relation to convenience and necessity and would also relate the long-range planning functions of the government to decisions affecting international agreements relating to the expansion of systems and services." 28/

In the past, it has been the practice for carriers to negotiate international agreements without prior substantive consultation with the appropriate government agencies. The proposed change would assure that the appropriate agencies were not only informed but also made aware of contemporaneous cable and satellite negotiations (making them able to ascertain whether either or both

proposed agreements were necessary). Grad states:

> "The recommendation would give OTP, established as a statutory agency in the Executive Office, a clear obligation to coordinate the process. The involvement of the State Department is obviously appropriate, and the role of the FCC would be to substantially carry out its regular function as redefined in accordance with Recommendation One."
>
> It should be added that the recommendation does not oust FCC from its regulatory role, nor would it substitute a political decision-making process for what is essentially a process subject to the judgment of a qualified administrative agency. The role of the executive is seen as essentially a facilitating, supportive, foreign policy role." 29/

Recommendation 3 - Long-Range Planning

Several steps for improving the long range planning process as advanced in the report are:

a. OTP should be tasked with the statutory obligation to engage in long-range planning and policy development for the U.S. in the international telecommunications field.

b. The carriers and appropriate agencies should be tasked to provide information to OTP upon request.

c. Duties and obligations here recommended would properly be included in the proposed amendment of the Communications Act of 1934.30/

The need for government involvement has been demonstrated as:

> "only the government can require the collection and assembly of all relevant data--while planning by industry is likely to be based on the cable or satellite components, without regard to communications needs as a whole.

> In fact, a major defect of past planning efforts has been that cable and satellite facilities were planned for separately and without relation to each other... there is evidence of substantial numbers of empty circuits, whose idleness imposes a cost on the public resulting from the lack of coordinated planning for cable and satellite." 31/

Other factors necessitating the involvement of government in the planning process are also suggested. "There is also a need for long-range government planning in the telecommunications field because interests of the U.S. telecommunications industry do not necessarily coincide fully with the national interests. Unilateral planning by sectors of industry is likely to take account of the special economic interests of the particular carrier, rather than the national interest. or the public interest--particularly when planned facility expansion is so closely connected with a more advantageous rate base. Moreover, carriers have multinational business interests, and their planning decisions may, at times, reflect their special economic interests in favoring multinational rather than U.S. interests. Clearly, the public interest of the U.S. in international telecommunications requires government concern for, and participation in, long-range planning." 32/

The study concludes "In view of the close relationship of international telecommunications to foreign relations interests of the United States--and hence to the Executive Office of the President--it is appropriate that the Office of Telecommunications Policy be given clear statutory responsibility for telecommunications planning in the international area." "The only agency which presently has the staff capability, and which has shown a desire to undertake the task of long-range planning and policy development, is the Office of Telecommunications Policy in the Executive Office." 33/ "OTP already has the obligation to coordinate other telecommunications interests with national implications, such as the government portion of the radio spectrum allocation and other aspects of telecommunications control relating to national defense."34/

END NOTES - Chapter VI

1. Transcomm, Inc., "An Analysis of Current and Alternative Regulatory Procedures for the U.S. International Telecommunications Industry," OT Contract Report, 1976, p. 3.
2. Ibid., p. 125.
3. Ibid., p. 128.
4. Ibid., pp. 136-137.
5. Ibid., p. 145.
6. Ibid., p. 15.
7. Ibid., pp. 18-19.
8. Ibid., p. 19.
9. Ibid., p. 162.
10. Ibid., p. 166.
11. Ibid., p. 170.
12. Ibid., p. 171.
13. Ibid., p. 179.
14. Ibid., p. 206.
15. Ibid., p. 211.
16. Ibid., p. 222.
17. Ibid., pp. 232-233.
18. Frank P. Grad and Daniel C. Goldfarb, "Government Regulation of International Telecommunications" OTP Contract Report, 1976, pp. 138-140.
19. Ibid., p. 140.
20. Ibid., p. 150.

21. Ibid.

22. Ibid., p. 151.

23. Ibid., p. 152.

24. Ibid., pp. 152-154.

25. Ibid., p. 154.

26. Ibid., pp. 154,155.

27. Ibid., pp. 155,156.

28. Ibid., pp. 157,158.

29. Ibid., p. 159.

30. Ibid., p. 160.

31. Ibid., pp. 160,161.

32. Ibid., p. 161.

33. Ibid., p. 161.

34. Ibid., p. 162.

CHAPTER VII

SUMMARY AND RECOMMENDATIONS

A. Introduction

This concluding chapter presents a summary of the findings on the various alternative industry structures which were examined for single entity, international record industry, international telephone industry, COMSAT, and governmental regulation. An overall summary based on these findings is presented and finally, the authors for the first time in this report make known their views for regulatory action and legislative change in the form of recommendations.

B. Five Basic Areas Studied

This section summarizes the findings of the studies in the five basic international areas.

1. Single Entity Options

Several studies examine the option of a single transmission entity either privately or government owned. There is a general consensus that a single entity, i.e., monopoly, should not be allowed at the retail level as many services can be supplied on a somewhat competitive basis.

In the case of a privately-owned single entity at the transmission level, most of the studies have indicated that assumptions of likely cost benefits could not be defended. As one author notes, the consumer would have "no alternative supplier, merely different technologies at probably uniform prices." The studies indicate that a single entity could prove difficult to regulate, result in an unbalanced system through favoring one technology over another, and create service problems. As far as existing problems are concerned, the studies indicate that this option could serve to exacerbate rather than to resolve them.

In the case of a government-owned single entity, the studies indicate that it would suffer from the same difficulties and introduce others as well. Several studies note that political forces could

intrude in the decisions, the executive appointments, and the operations. One study compares the likely result as similar to the U.S. Postal Service. Another study observes that rates are normally higher in countries where government-owned entities are involved and makes the point that funding, rather than reflecting requirements, would have to compete with other more compelling needs in the government budget.

With the exception of the Rostow and SRI studies of the 1960's, none of the studies specifically advocates any type of single entity.

2. International Record Industry Options

The Gabel study of the record industry traces the development of the industry over time and the legislative/regulatory background. Several options for the international record service industry were explored including: status quo (i.e., no changes), duopoly, and improved regulation. The study raises significant questions in a number of areas. For example, rates for some services may be higher than necessary, investment may be less than cost effective, and competition less than it could be (Authorized User, AVD decision, cable/satellite issue, etc.).

The study observes that a number of changes clearly appear necessary (i.e., abolish Authorized User ruling, abolish AVD decision and cable/satellite allocation, etc.). These are all decisions that the Commission made and are within its power to rescind. Gabel emphasizes that the "missing link" has been effective regulation and that the answer to the identified problems is improved and more active regulation rather than structural change.

3. International Telephone Industry Options

The Cole study of the international telephone industry examines the complexities of international services and how they are integrated into the U.S. domestic system. Significant hazards are identified as results of the magnitude of the telephone industry, the problems posed by the cable/satellite issue, and the lack of required regulatory tools. The study views the existing inability to actually practice rate base regulation (due to inability to identify true costs of international service), inability to determine the most

cost effective facilities mix, etc., and the potential long-run cost impact of existing cable/satellite allocation schemes as serious problems which need attention.

The study reviews a number of options including the status quo, improved regulation, development of an overseas accounting center, an AT&T subsidiary, a separate non-AT&T company, and merger of COMSAT into AT&T. The study finds that the structural change options offer no definitive solution to the existing problems. Generally, the structural change options appear to open the door to even more problems, and in some cases effect a loss of existing benefits such as competitiveness, economies of scale, international bargaining power, technological leadership, and others. The findings of this study are essentially similar to those of the record industry study; improved regulation is required no matter what option is examined and, in addition, the development of an overseas accounting center is recommended. The latter would make it possible to accurately identify the true costs associated with international services and would make effective rate base regulation possible.

4. COMSAT Options

The Transcomm study reviews several options for COMSAT including: recision of the Authorized User decision (allow COMSAT into the AVD market), joint carrier ownership of satellites, and COMSAT absorption of AT&T submarine cables and related facilities.

The results of the study are relatively inconclusive for a number of reasons. For example, any option which generally retains COMSAT's carrier's carrier role is by definition limited. Also, any option which opens up markets such as AVD to COMSAT raises questions of impact upon other carriers, such as the IRC's. Finally, COMSAT's ability to compete in the message telephony market is virtually nonexistent because of the nature of that industry.

The study indicates that recision of the Authorized User ruling would probably result in much more competition than now exists. On the other hand, it notes that the regulator would have to guard against cross-subsidization. The joint ownership option is noted as being interesting but not likely to solve existing problems and would create new ones. The study observes that having effected this change, the regulator would still be faced with the

cable/satellite problem, although the possibility for real difficulties (i.e., relegating satellite to the thin traffic paths) would be greater. The study also notes problems with maintaining technology, both cable and satellite, under this option.

The absorption of AT&T facilities option would, in essence, create a single transmission entity with all of the objections noted previously. Transcomm further observes that while COMSAT might be in a position to plan effectively, its predisposition toward satellite could lead to an unbalanced system and service problems.

In summary, the author notes that "no major conclusions have been drawn for each alternative," but he does suggest that administrative rulings dominate tne structuring of the industry.

5. Government/Regulation Options

In the analysis of regulatory procedures, Transcomm, Inc. tests eight regulatory alternatives as possible responses to current industry problems. Increased regulatory planning and guidelines, which are overly specific and intended as a replacement for common carrier management duties, are summarily rejected. The elimination of circuit activation requirements and the disaggregation of rates are advanced as the former would eliminate delays, and the latter would base rates on costs. The capitalization of satellite lease payments or the exclusion of submarine cable investment from the carriers' rate bases are reviewed as possible ways of neutralizing the cable/satellite circuit choice. Also, AT&T's and COMSAT's entry into the AVD market are assessed as positive alternatives as long as regulation can safeguard against cross-subsidization, and as long as the new entrants do not seek to eliminate the IRC's from this market. Deregulation of leased channel service is also analyzed with similar results.

Grad and Goldfarb's study offers three recommendations for change in the industry. First, the 1962 Communications Satellite Act would be amended to recognize COMSAT as a full common carrier in order to relieve the FCC of its obligations to advance satellite technology, and to relieve COMSAT of special foreign relations obligations. Second, in steps designed to enhance foreign relations, OTP should be designated as the U.S. agency to coordinate agreements with foreign carriers, require all U.S. carriers by law to inform OTP of ongoing negotiations, and require a statutory amendment to meet capacity requirements primarily through

cost consideration. Finally, OTP should be tasked with the statutory obligation to engage in long-range planning and policy development for the U.S. international telecommunications.

C. Conclusions and Recommendations

This section contains observations that, for the sake of focusing the issues, are cast in the form of views, comments, and recommendations. However, OT has not subjected them to the extensive review by the range of interested and informed parties inside and outside the Federal Government which would precede formal recommendations by the Executive Branch to the Congress. Rather, the purpose of this section is to make a responsible and public contribution to ongoing discussions of alternative arrangements for the structure and regulation of the international telecommunications industry. There has been sufficient review of these observations to satisfy OT that they will make such a responsible contribution. Nevertheless, because of the limited purpose of this section, the observations do not constitute formal positions or action recommendations on behalf of the Office, the Department, or the Administration.

1. Structural Alternatives

It is our opinion that not one of the summarized U.S. international industry studies has made a convincing case for structural change. The single entity alternatives are dismissed as anticompetitive in an industry which sorely needs enhanced competition, not only in the services sector but in the transmission media sector as well.

Alternative arrangements for the IRC's, AT&T, and COMSAT also hold little appeal, since the industry's problems are not primarily the results of the existing industry structure. The various alternatives examined by Gabel, Cole, and Transcomm did not fare well when examined as possible instruments for efficiency, competition, technological progress, and consumer benefit. Indeed, when gains were found in some instances, they were offset by losses identified in others, along with the potential for further problems.

Finally, any structural change is not without concurrent expense and loss to some, and revenues and gain to others. The benefits to consumers and the overall effect on the industry must be demonstrated before a commitment is made for changing the structure.

2. Regulatory Alternatives

The bulk of the evidence supplied by the various studies indicates that the existing industry structure is neither the cause of the problems faced today in international telecommunications nor the proper focal point for change. Rather, the problems are due largely to an ineffective regulatory process which has been outpaced by technological progress, growing market size, expanding service categories, and varying degrees of competition. The complexity of international telecommunications has placed extraordinary requirements upon an overburdened regulator. Clearly, improved regulation is the more feasible approach for change. By means of an improved regulatory process, it will be possible to effect the changes needed for ensuring the efficient operation of the industry. In so doing, the industry structure may well be affected indirectly by improvements in the regulatory process, which will induce a higher degree of feasible competition.

Both Gabel and Cole directly advocate improved regulation. Similarly, Grad and Transcomm detail various regulatory alternatives for solving existing problems. Our recommendations below follow this improved regulation approach. Such an approach leads to a timely introduction of reform with a minimum of legislative rewrite.

a. Rate Base Regulation/Rate Structure

Effective rate base regulation of the international voice and record carriers must be instituted as soon as possible. This would not only ensure that basic regulatory goals are achieved, e.g., just, reasonable and nondiscriminatory rates, cost effective investments, etc., but also introduce a higher degree of competitiveness in many areas. Commission actions in Docket 18128 and 20778 are preliminary steps toward achieving effective rate base regulation.

Recommendations:

- Establish an accounting center for AT&T's overseas services.

- Develop methodologies for determining rates of return of the major international voice and record services.

- Determine present rates of return for the major services.

- Establish allowable rates of return for each of the major services.

b. Planning and Licensing of Facilities

At the present time, the Commission has embarked upon an effort to require industry to submit a comprehensive plan for approval and has also begun in-house efforts to develop some of the needed analytical methodologies. In our view, the Government's role should be limited to protecting the public interest without performing industry's business. Definitive guidelines, which adequately protect U.S. public interest, must be developed to enhance cost effectiveness and to reduce uncertainties for both U.S. carriers and foreign administrations. A planning mechanism must be established whereby U.S. cable and satellite carriers, in cooperation with foreign administrations, jointly perform long-range planning with a reasonable expectation of U.S. license approval.

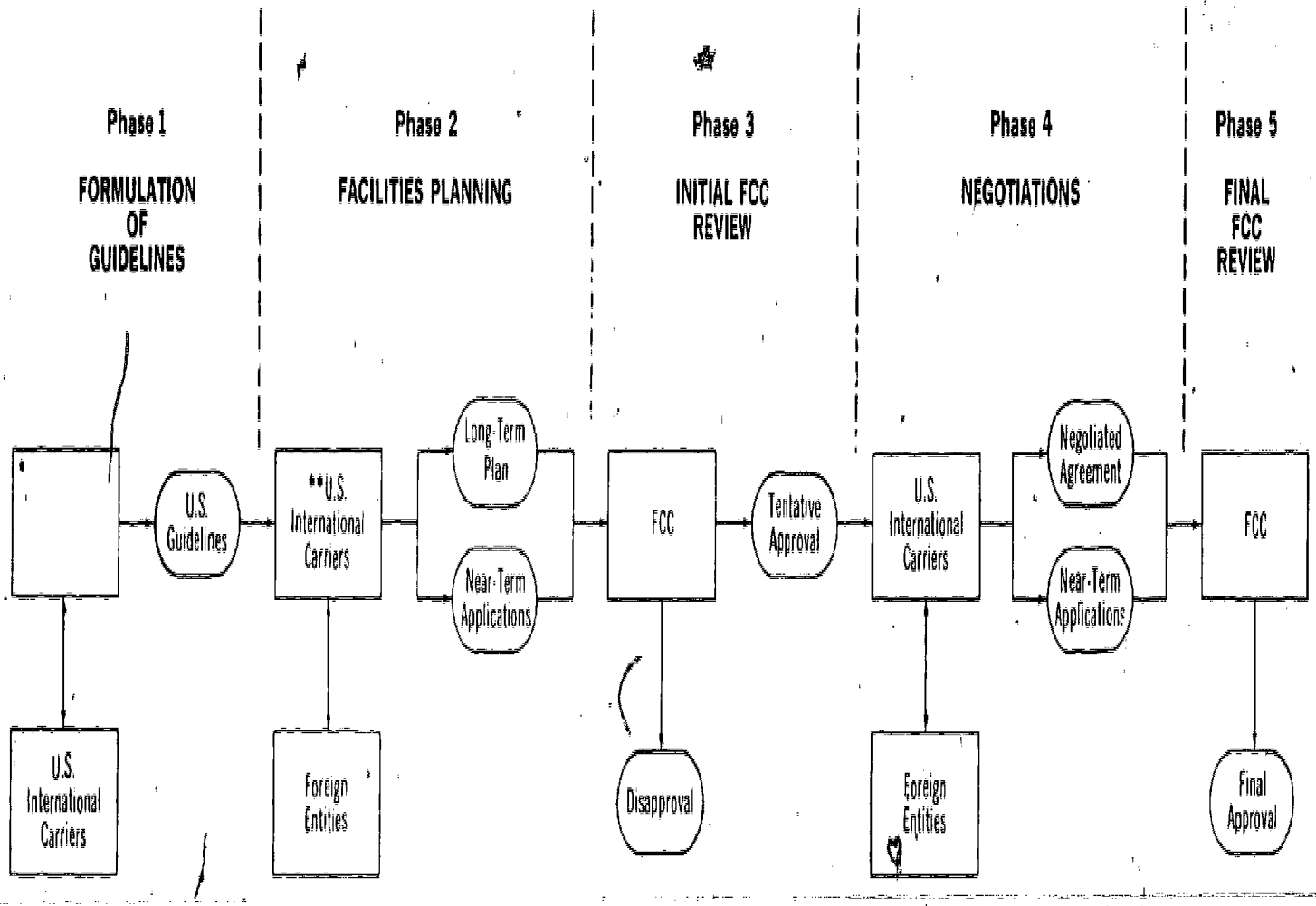
Recommendations:

- The following steps are proposed in the planning and licensing process, shown in figure VII-1, as improvements in the current process:

(1) The Government in conjunction with the U.S. carriers should first develop guidelines relative to traffic forecasting, a cost comparison methodology for transmission facilities, and operational factors. The Government should not try to impose a standard forecasting methodology on the carriers but only insist that the methodology be a systematic, fully definable process. The cost comparison methodology of cable and satellite systems must be developed jointly with AT&T, COMSAT, and the IRC's because unique requirements must be accounted for in the process. Likewise, the operational requirements must be developed jointly with the carriers for the same reason.

(2) Once the guidelines are established, the U.S. carriers would develop a coordinated long-term plan or plans with the foreign administrations compatible with the established guidelines. It is understood that some foreign administrations may have different views, and a reasonable compromise will be reflected in the coordinated plan.

FIGURE VII-1. PROPOSED FACILITIES PLANNING AND LICENSING PROCESS



*FCC – Federal Communications Commission
OTP – Office of Telecommunications Policy
DoS – Department of State
DoC – Department of Commerce

**American Telephone & Telegraph Company
Communications Satellite Corporation
International Record Carriers

(3) The U.S. carriers would then submit the plan or plans plus the applications for near-term facilities, including proposed circuit utilization of facilities, to the FCC. The plan would allow the FCC to examine the near-term applications with a long-term perspective.

(4) The FCC will apply the established guidelines in deciding whether to grant tentative approval of the applications for near-term facilities within 90 days. This process requires the Commission to maintain an in-house capability in the areas of traffic forecasting, economic cost comparisons, and operational requirements.

(5) If the FCC grants tentative approval, then and only then, can the carriers sign a negotiated agreement with the foreign administrations on the near-term facilities.

(6) Then the carriers submit their applications to the Commission, with action required within 30 days. The FCC will verify that the negotiated agreement is consistent with the tentatively approved application.

c. Relative Use of Cable and Satellite Facilities

We agree with most of the studies that the use of fill formulas or other such devices should be abandoned. The determination of cable/satellite market share should be determined by the relative cost effectiveness and operational efficiency, promoting competition between the transmission media suppliers. Operational factors such as diversity requirements will probably result in a minimum use of either cable or satellite facilities for any major traffic stream at 25-30 percent of the total.

The issue of circuit utilization will be resolved adequately in the proposed licensing process and no separate circuit activation authorization will be required. This approach would abolish the present two-step licensing process.

Recommendations

- Abolish any and all fill formulas which are used to determine the relative use.

- Explore measures that neutralize cable/satellite investment choices, such as capitalization of lease payments.

- Eliminate separate circuit activation procedures, which are now required by the FCC.

d. Foreign Relations

Most of the difficulties the U.S. has experienced with its foreign partners can be traced to four causes: (1) failure of the U.S. to develop specific policy and guidelines relative to the licensing of new facilities (this has caused uncertainty not only among the U.S. carriers but also with their foreign correspondents), (2) fundamental difference in viewpoints concerning rates (U.S. views telecommunications as a basic service to be provided at reasonable rates, whereas many foreign countries view it as a profit maximizing business and use the revenues to subsidize postal and other domestic services), (3) U.S. regulatory lag in the licensing and circuit activation process, and (4) multi-lateral failure to recognize that facilities planning is a cooperative venture.

Recommendations:

- Ensure that foreign entities are fully aware of U.S. licensing and rate policies.

- Implement prior recommendations concerning U.S. licensing process as a means of eliminating regulatory lag and promoting cooperation.

e. Authorized User/AVD

Several studies suggest recision of the Authorized User decision and the re-entry of AT&T into the AVD market. We believe that these actions would increase the degree of competitiveness in the marketplace over the short run, although the impact upon competition over the long run is less obvious.

Recommendations:

- Examine the prospect of predatory pricing by COMSAT and/or AT&T.

- Examine the impact upon the IRC's and the basic services they provide.

- Examine the possibilities of cross-subsidization by all the carriers.

- Examine the impact of foreign half-circuit rates.

f. Resale and Shared Use of Services and Facilities

We feel that sufficient evidence has not been presented to determine that resale and shared use of international services and facilities would be in the public interest. While the goal of a higher degree of competition in the private-lease market is desirable, it is possible that other alternatives such as deregulation of private lease might be preferable to merely increasing the number of vendors while maintaining regulation.

The long run impact of multiple new entrants could adversely affect competition and lead to a greater degree of market concentration than now exists or to the establishment of new artificial markets.

Recommendations:

The concept of resale and sharing as well as other alternatives in the private lease area should be examined with consideration of the following:

- Relative size of the market
- Likely viability of new entrants
- Degree of Government involvement required (artificially defined markets)
- Evidence that existing service is not available, inadequate, over-priced, or artificially constrained
- Impact upon basic services, and determination of whether they are reasonably priced at the present time

g. Record Industry Issues

The formula for unrouted telegraph messages, gateway cities, and interconnection are discussed under this heading of record industry issues.

(1) International Formula

Recommendations:

- All formulas for unrouted telegraph messages should be abolished. The customer should specify the international record carrier desired for overseas transmission.

(2) Gateway Cities

Indications are that competition may be enhanced by abolishing the gateway cities concept.

Recommendations:

- A study should be undertaken to fully evaluate this proposal, since conclusions cannot be drawn from studies already performed.

(3) Interconnection

Interconnection may have benefits for the consumer, however, there appear to be many factors (possible abolition of the gateway cities concept, long-term impact on competition, foreign administration reactions, etc.) that need to be evaluated before a final decision can be reached. The Commission is examining this subject at the present time, and any recommendation now would be untimely.

h. Earth Station Ownership

We do not see the earth station question as a major area of concern.

3. Areas for Possible Legislative Change

The regulatory changes recommended in the preceding section may require new legislation in order to either provide the Commission with the necessary legal authority or to reflect specific directions by the Congress as to how the Commission is to carry out its regulatory

role. A new section may be desirable in a revision to the Communications Act of 1934 to cover those items which are unique to international telecommunications.

Consideration should be given to the revision of Section 222 of Act if it is deemed necessary to: (1) abolish the international formula for the distribution of unrouted outbound telegraph messages and allow an all-routed-by sender approach to be implemented, (2) abolish the gateway cities concept or provide for more liberalized hinterland service, and (3) reclassify Hawaii and Puerto Rico as domestic points for U.S. domestic traffic.

New legislative language may also be desired to specifically address such items as: coordinated long-term planning of facilities, licensing of facilities, facility use allocation, e.g., no allocation of traffic by transmission media, rate base regulation, and international rate-setting and settlement procedures.